THE OLD INDO-ARYAN

A Historical and Comparative Grammar

Vol. I

Satya Swarup Misra

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A Historical & Comparative Grammar
Vol I

(A Historical & Comparative Grammar
of the Sanskrit Language)

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Oṃ

Dedicated with Deep Devotion

to

my father

Pandit Sri Raghu Nath Misra

a true religious man,

who was my real teacher of Sanskrit Grammar

and

who being one of the greatest scholars of Sanskrit
of the twentieth century, preferred to remain
unknown due to his Vaiṣṇavic politeness

PREFACE

I am happy to place the present volume 'The Old Indo-Aryan, A Historical & Comparative Grammar—Vol I' in the hands of linguists interested in Indo-Aryan linguistics and Indo-European comparative grammar. This volume presents a comprehensive and explicit sketch of the history of the Sanskrit language based on comparative evidence available uptodate. Full care has been taken, so that no descriptive detail of the Sanskrit language is left out while discussing its history.

Vol I is being released at present. Although the full work is in press since a long time, it could not be printed due to some unavoidable difficulties; but in the mean time new material was always added and it gradually took a more voluminous shape. Since several scholars throughout the world are waiting anxiously for the work since a long time, it was decided to publish it in more than one volumes, so that it may reach the interested scholars a bit earlier.

Vol I comprises Introduction and Phonology. In Introduction Ch I discusses the classification of Indo-European into Satəm and Centum with necessary details of description of each language coming under them. Next follows (in Ch II) details of Indo-Iranian with special features of Indo-Iranian, Old Iranian, Avestan and Old Persian. Ch III gives a full introduction to Indo-Aryan with details of its three stages, date of Rigveda, classification of Old Indo-Aryan literature into six stages viz. Early and Late Samhita, Vedic prose stage, and epic Sanskrit, Classical Sanskrit and Late Classical Sanskrit. Then follow the special features of Old Indo-Aryan, linguistic distinction of Vedic and Classical Sanskrit and special features of the above six stages of Old Indo-Aryan. Phonology starts with description of sound systems of Indo-European, Indo-Iranian & Sanskrit and a table of development of Indo-European sounds in Indo-Iranian and Sanskrit, Avestan, Greek, Latin and Gothic. Next follow the development of

primary vowels and secondary vowels in Sanskrit with systematic history of primary and secondary vowels rich with exhaustive examples and cognates from various Indo-European languages. Positional variation of Indo-European secondary vowels which is an improvement on Siever-Edgerton's law is presented next. Vowel phonology closes with an elaborate and clear picture of ablaut in Indo-European and Sanskrit with exhaustive illustrations. The history of consonants is introduced with a brief refutation of the Laryngeal theory, and with some discussions on the reconstruction of voiceless and voiced aspirates and Indo-European conjunct consonants. The Guttural series is discussed next showing necessity of reconstruction of the three Gutturals, palatalization in Indo-Iranian and Sanskrit. Next treatment of each individual guttural sound along with gutturals combined with other consonants is presented with explicit history and exhaustive illustrations. History of other consonants such as dentals, labials, semivowels, liquids and sibilants are also elaborately discussed in a similar method with exhaustive illustrations. After elaborate treatment of Indo-European consonants in Sanskrit each Sanskrit vowel and consonant is taken individually and the Indo-European sources are shown at one place. Sanskrit vowel sandhi and consonant Sandhi are taken up next with complete history traced from Indo-European. Vol I closes with a detailed and clear picture of Phonetic laws.

I am grateful to Prof. Suniti Kumar Chatterji who asked me to write a comprehensive historico-comparative grammar of the Sanskrit language, when he saw my book 'A Comparative Grammar of Sanskrit, Greek and Hittite'. According to him Burrow's Sanskrit Language was not perfect and Wackernagel's Altindische grammatik was yet to be completed. I have done my best to fulfil his desire but he is no more with us to see it. But I am happy that the book is coming out in his centenary year. Competent critics will evaluate as to how far I have been able to fulfil his dream.

I remember my wife Dr. (Mrs.) Haripriya Misra, who herself was a good scholar of Indo-Aryan and Indo-European linguistics and had produced several books and many papers. But her contribution to my research was very great. She kept me fully free to devote my full time for research. Now when she is no more with us, (as she expired at the age of 44 in 1988), I understand her worth more than before. She was always keen to see that my research is smoothly going on. After I have lost her, the speed of my research work has left me. And I donot know whether I will be able to complete the comprehensive comparative Grammar of the Indo-European languages for which I am actively busy since 1959 and where my wife joined hands with me for about 15 years.

I remember with regards my father Pandit Sri Raghu Nath Misra, who was, as I understand now, one of the greatest scholars of Sanskrit of the twentieth century. He preferred to remain unknown due to Vaisnavite politeness and he kept his scholarship fully hidden even from me, who was very close to him. He taught me Sanskrit grammar in the months of May and June in 1946, teaching almost 15 hours per day. By his method of instruction not only I became fully thorough in Sanskrit Grammar, but rather in grammar in general; for which my efficiency developed to learn grammar of any Indo-European language without a teacher. Thus I could write historico-comparative grammars of many Indo-European languages including several Anatolian languages for which no such work was done as yet. I must pay my homage to Prof. Sukumar Sen, who was my teacher in Old Indo-Aryan linguistics. Lastly I thank Prof. Pranabesh Sinha Ray for his valuable Foreword.

The present work is only the first part of the voluminous work: Old Indo-Aryan. The Bibliography and Word Index will be included at the end of the last volume. The list of Abbreviations and Errata of course is being included in this volume

Unless there is something very important, I have normally avoided referring to my predecessors. The Bibliography will include all

the books referred by me. Here I acknowledge my indebtedness to all my predecessors such as Brugmann, Wackernagel, Burrow, Chatterji and Sen. Besides all my former works were also much useful to me for determining the Indo-European background at very subtle points.

Scholars know that I donot accept the Laryngeal Theory. I have refuted the same in several of my works and especially in my *Laryngeal Theory, A Critical Evaluation.* It is a fact that this theory is in no way useful for any historical grammar of any IE language. It complicates the whole situation. For example Burrow accepts the theory but he does not use it for IE reconstructions. This theory is like 'something new which is not true'. In this work I have not used many pages for refuting this theory, to save wastage of paper and printing labour. In another work, *New Lights on IE Comparative Grammar,* I have shown that this theory, applied to any part of IE comparative grammar, proves to be a total failure. Scholars seriously working on IE should now keep their minds free from the Laryngeal Theory.

Finally I pay my homage to the Almighty, without whose desire nothing can happen.

Satya Swarup Misra

2-12-1990
(Mārgaśīrṣa Pūrṇimā)
Varanasi

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FOREWORD

I have much pleasure and gratification on tip-toe expectation as I have been so long for the culmination of the work by Professor Dr. Satya Swarup Misra "The Old Indo-Aryan, A Historical & Comparative Grammar—Vol I" for which many others have also been waiting since some two decades. *Omnia vincit verbum* 'word conquers everything' as the saying goes, this work, upon perusal seems to be an encyclopaedia of the history of the Sanskrit language, delineating details on all facts of the subject in comparison with the major Indo-European languages in their early stage and reconstructions in Indo-Iranian and Indo-European to boot. It was at the instance of Prof. Suniti Kumar Chatterji, I remember, that Dr. Misra had taken it up as an assignment who used to opine that Burrow's work was insufficient and that of Wackernagel remains still incomplete. I had seen the work of Dr. Misra in full in manuscript and felt that Dr. Misra had done justice to his assignment. Dr. Misra has given a detailed description of the six stages of the Sanskrit idiom, according to his own taxonomy in his introduction. In the phonology part he has made a thorough-going probe into minute details of positional variations of Indo-European secondary vowels, Ablaut variations of the Indo-European primary vocalism, the background and the development of each item of Indo-European vocalism and consonantism in various situations and combinations, thus leaving no loophole in this dimension. Complementarily, he has also worked on the history of Sanskrit phonemes in reverse order tracing each of them back to their Indo-Iranian and Indo-European sources devoting two chapters to the task. For aught I know Dr. Misra has probably for the first time delved into the annals of Sanskrit Sandhi phenomena from Indo-Iranian and Indo-European proto-forms stage by stage. Finally he has made a very lucid exposition meticulously those trends and tendencies that obtain in the

language known as phonetic laws. Known as a teacher with involvement and a veritable scholar-researcher in Indo-European languages, as it will be evidenced from his contributions in the field e.g. in Avestan, Hittite, Greek, Luwian, Palaic, Hieroglyphic Hittite and the like. Dr. Misra's present work showing maturity by being more time and energy consuming will, I sincerely hope and believe, be of great use to all investigators scholars in the line both in India and abroad. I wish it god-speed.

P. Sinha Ray

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ABBREVIATIONS

Ab/abl/Abl	Ablative
Ac/acc/Acc	Accusative
Adv	adverb
Alb	Albanian
Aor/aor	aorist
Arc	Arcadian Gk
Arm	Armenian
Att	Attic Gk
Att-Ion	Attic-Ionic Gk
Av	Avestan
AV	Atharva Veda
bt	line from bottom
CGSGH	Comparative Grammar of Skt, Gk & Ht
Ch	Chapter
Cl/cl	Classical Skt
cp	compare
Cymr	Cymric
D/Dat/dat	Dative
decl	declension
dl	dual
dlct	dialect(al)
Dor	Doric
e.g.	exempli gratia
EIE	Early Indo-European
ES	Early Saṃhitā
etc/etc.	et cetra
Fem/fem	feminine
gAv	Gathic Avestan
Gen/gen	genitive
Gk	Greek
Goth	Gothic
HG	Comparative Grammar of Hittite
Hom	Homeric Gk
Ht	Hittite
I/Inst/inst	Instrumental
i.e.	id est
IE	Indo-European
Impv/impv	imperative
Impf/impf	imperfect
inf	infinitive
Ion	Ionic Gk
Lat	Latin
Lesb	Lesbian Gk
LIE	Late IE
Lith	Lithuanian
Loc/loc	Locative
LS	Late Saṃhitā
Mc/Masc/masc	masculine
MIA	Middle Indo-Aryan
N/Nom/nom	Nominative
NLIECG	New Lights on IE Comp. Gram
NE	New English
Nt/neut	neuter
NIA	New Indo-Aryan
OBret	Old Breton
OCS	Old Church Slavic

OE	Old English
OHG	Old High German
OIA	Old Indo-Aryan
OIcel	Old Icelandic
OIr/OIranian	Old Iranian
OIrish	Old Irish
OLat	Old Latin
ONorse	Old Norse
OP	Old Persian
OPruss	Old Prussian
OS	Old Saxon
Osc	Oscan
pf/perf	perfect
pl/Pl	plural
RV	Rigveda
ŚB	Śatapatha Brāhmaṇa
Skt	Sanskrit
Sg/sg	singular
SV	Sāma Veda
Thess	Thessalian Gk
Tokh (A & B)	Tokharian (Dialects A & B)
TS	Taittirīya Saṃhitā
Umb	Umbrian
Vd/vd	Vedic
viz.	namely
VS	Vājasaneyī Saṃhitā
yAv	younger Avestan
YV	Yajur Veda
Wackernagel	Altindische Grammatik
√	root
>	becomes, becoming, changing into
<	comes from, coming from
*	hypothetical

(not used with IE/IIr forms, which are always hypothetical).

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A HISTORICAL & COMPARATIVE
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PART ONE

INTRODUCTION

I. INDO-EUROPEAN

II. INDO-IRANIAN

III. INDO-ARYAN

CHAPTER I

INDO-EUROPEAN

1. The Indo-European language family

Old Indo-Aryan or Sanskrit is a direct descendant of Indo-Iranian, which is probably the oldest branch of the Indo-European language family. Indo-Europen language family is the most wide spread language family in the world. This language family is very rich in having archaic records in many of its daughter languages. On linguistic grounds the Indo-European languages are classified broadly under two heads, viz. Satəm and Centum. This classification is based on the treatment of Indo-European palatal series. The Satəm languages have developed sibilants out of the IE palatals, whereas the centum languages have developed velars out of the same. The Satəm languages have been further classified under four heads, viz. Indo-Iranian. Balto-Slavic, Armenian and Albanian. The Centum languages have similarly been classified under six heads, viz. Greek, Hittite, Italic, Celtic, Germanic and Tokharian. Besides these ten IE major languages there are also a few other minor languages which should be classified separately. The Satəm and Centum classification have taken their names from the words for hundred in Avestan and Latin respectively. The words for hundred in different IE languages presented below clearly show their Satəm and Centum nature.

IE *k̂m̥tom*

Satəm languages : IIr :–Skt *śatam*, Av *satəm*, OP *θata* Balto-Slavic : Lith *szimtas*, OCS *sŭto*

Centum languages Gk *hekatón*, Lat *centum*, OIrish *cēt*, Goth *hund*, Tokh (A) *känt*

THE SATəM LANGUAGES

2. Indo-Iranian : Indo-Iranian which comprises Indo-Aryan and Iranian is the immediate source-speech of OIA, This is discussed in greater length in the following chapter.

3. Balto-Slavic : It comprises Baltic and Slavic.

But Balto-Slavic unitary stage is not so certain like IIr. Baltic and Slavic show some common features but differ from each other in many respects. Recent researches reveal that common features of Batto-Slavic are rather the common features of the Satəm branch inherited in all the Satəm languages. For example, change of palatal series to sibilants is the most important characteristic of the Satəm branch which are found quite naturally in Baltic, Slavic as well as in IIr, Another important feature is change of *s* to *ṣ̌* after *r*. This was further extended in Slavonic and IIr, as the change of *s* to *ṣ̌* after *i*, *u* and *k*, as well.

A close examination of IIr and Slavonic shows that in several aspects these are closer to each other than Baltic. Therefore the Balto-Slavic unity is now considered to be more doubtful. But Baltic and Slavic show a few common innovations such as use of IE abl sg of *o* stems for gen, e.g. IE *wl̥qōd* (abl) > Lith *vil̃ko* (gen), OCS *vlŭka* (gen).

Baltic consists of Lithuanian (with oldest records from 16th century AD), Lettic (also with records from 16th century AD), and Old Prussian (with records from 7th century AD).

Slavonic includes Old Church Slavic (also called Church Slavic or Old Slavic or Old Bulgarian with records from 9th cen. AD), Russian (consisting of Great Russian, White Russian and Little Russian or Ukrainian), Serbo-Croatian, Slovenian, Czech (or Bohemian), Sorbian (or Wendish), Polish and Polabian.

Since cognates from Lith and OCS will be often quoted, some peculiar notations may be described.

Lith *e*, *ē* are open vowels, *ė*, *o* are long and close vowels; *y*=*ī*; hooked vowels (e.g. *ą*) are pronounced often as long

vowels and indicate the lost nasalization only. *oi*=*ōi*, *ë*=almost *əe*. *ů*=*uɔ*. Accented vowels are pronounced long.

OCS *ĭ*, *ŭ* are neutral vowels approaching *i/e* and *u/o* respectively. *ě*=*ē*, *y*=*ṻ* *ch*=χ.

4. **Armenian** : Oldest record of this branch is found since 5th cen AD and the language of that stage has remained, almost without change, as a literary language up to modern times.

Some special notations : *e* is almost like German *ö*; the difference of *ṙ* from *r* and *ł* from *l* is unknown; *k'*, *t'*, *p'*=*kh*, *th*, *ph* respectively; *č*, *č̣*, *ǰ* are palatal affricates like Skt *c*, *ch*, *j*; but Arm *c*, *c̣*, *j* are dental affricates.

5. **Albanian** : This was the language of ancient Illyria and shows oldest documents from the 17th cen. This language has a lot of phonetic change and is not yet included properly in any IE grammar. It owes much of its vocabulary to Lat, Gk, Slavic and Turkish. Besides Albanian reveals its independent linguistic structure and vocabulary which is inherited by it from IE.

THE CENTUM LANGUAGES

6. **Greek** : This is the most important one of the Centum languages and the second important language of the IE language family, because IE comparative philology owes much to Greek and to its elder sister Skt which is the most important Satəm language as well as the most important language of the IE language family. A historical-comparative study of any IE language is impossible without a background of Skt and Gk. Gk is very rich in dialectal material from the historical stage. The earliest record is found in Homeric epics viz., Iliad and Odyssey (c. 8th cen BC). This also shows dialectal admixture of Old Ionic and Aeolic. A still earlier record (of 13th or 14th cen BC) is attested in some recently discovered inscriptions termed as Mycenaean Gk.

The following are the important Greek dialects : Attic-Ionic (or standard Gk, the source of Koinē or middle Gk and of modern Gk). Arcadian-Cyprian, Aeolic (including Lesbian,

Thessalian, Boetian), North-Western Gk (including Lacrian, Phocian, Elean) and Doric (including Laconian. Argolic, Corinthian, Cretan and Messenian etc.).

Some special features of Gk may be mentioned here in view of its important role in IE grammar.

(1) IE primary vowels are best preserved in Gk e.g., IE *dedork̂a* > Gk *dédorka* but Skt *dadarśa*.

(2) Voiced aspirates have been devoiced e.g., IE *dhidhēmi* > Gk *títhēmi* but Skt *dadhāmi*.

(3) Deaspiration of one of the two aspirates in consecutive syllables like Skt; e.g., Gk *títhēmi* (above).

(4) Loss of all final consonants except *r*, *n*, *s*.

(5) Retention of dual like IIr.

7. Hittite : Hittite has secured a considerably important position in IE inspite of being a late-comer in IE philology, because of its ancient character and some other note-worthy peculiarities. This is a discovery of the 20th eentury and after much controversy this has been stamped as IE. A number of tablets have been discovered from Boghazkoi which consist of royal documents belonging to 12th or 13th cen. BC or to a slightly earlier period. These are written in Cuneiform character. The text is often over-loaded with Akkadian and Sumerian formatives, forms and passages. The IE element is highly limited but is enough to proclaim its IE character.

Hittite records contain fragmentary documents of some other IE languages which show closer kinship to Ht in contrast with other IE languages. These are Luwian, Lycian, Lydian, Palaic and Hieroglyphic Hittite, which also present some common points in contrast to Ht and are termed as the *ti*-Anatolian languages. Ht and the *ti*-Anatolian languages form a special branch of IE which may be termed as Anatolian.

Ht studies have presented two new theories to IE comparative grammar viz., the Indo-Hittite theory and the Laryngeal theory. The Indo-Hittite theory maintains that Ht is not a

daughter of proto-IE but a sister and both belong to a common ancestor to be termed as Indo-Hittite. The Laryngeal theory (71) maintains that the proto-speech (whether it was IE or IH) had some laryngeal sounds which are retained in Ht and lost in other IE languages. Both these theories are even now subject to controversy. They have been refuted by me in several of my works.

8. **Italic** : Italic is classified under two heads, viz., *q*-Italic & *p*-Italic on the basis of the treatment of IE labio-velars as *q* sounds and *p* sounds respectively. *q*-Italic consists chiefly of Latin which presents the maximum amount of linguistic material of the Italic branch. Popular or vulgar Latin (which developed out of Lat in course of time) developed several dialects which became the Romance languages : Italian, French, Portuguese, Roumanian, Catalanian, Provenc,al and Raetoromanic. The *p*-Italic dialects are often called as Oscan-Umbrian because Oscan & Umbrian are the chief dialects of this branch. Besides there are some other dialects also with scanty documents.

9. **Celtic** : Celtic is also classified as *q*-Celtic and *p*-Celtic like Italic. *q*–Celtic includes Old Irish with records from 8th century, but the oldest monuments are found in the Ogam inscriptions of 5th century. The other languages are Scotch-Gaelic and Manx. The *p*-Celtic languages are classified under two heads. The first consists of Gallic where the records are found only in some names quoted by Greek and Latin authors and some inscriptions and coins. The second one consists of Cymric or Welsh, Cornish and Breton (or Armorican) with records from 8th or 9th cen. Celtic shows much affinity to Italic and therefore some think of an Italo-Cetlic unitary stage which is less certain than IIr or Balto-Slavic.

10. **Germanic** : Germanic is classified under three heads. viz., East, North and West Germanic. East Germanic consists of Gothic with records from 4th cen AD found in the translation of Bible by Ulfilas. It is the best representative of proto-

Germanic but has left no descendant. North Germanic, which is also called Scandinavian or Norse, has two sub-classes, viz, East Scandinavian (including Swedish, Gutnish & Danish) and West Scandinavian including Norwegian and Icelandic. The oldest records are found in the Runic inscriptions of 3rd or 4th cen AD refarred to as Old Norse, West Germanic comprises Old English (7th cen), Old High-German (8th cen), Old Low-Franconian (12th cen), Low German (of 9th cen which is often called as Nld Saxon up to 12th cen), & Old Frisian (14th cen).

11. **Tokharian :** This also is a newly discovered IE language with oldest records from 6th cen AD, preserved in the Buddhist manuscripts, discovered in Chinese Turkestan and shows two clear dialects which are termed as A & B.

CHAPTER II

INDO-IRANIAN

12. Indo-Iranian is not only an important branch of the Satəm group, but also of the IE language family because of its archaic nature as well as of the voluminous linguistic data. The name IIr naturally signifies a stage of the language when Indo-Aryan and Iranian were not independent dialects. The strong linguistic affinity of Indo-Aryan and Iranian is the basis of such an assumption. The affinity is found in phonology, morphology and vocabulary. Some other IE branches are sometimes considered to be related with one another. They are (1) Baltic & Slavic and (2) Italic & Celtic. The Balto-Slavic unity shows a lesser degree of affinity between Baltic & Slavic than IIr. The Italic & Celtic affinity is not strong enough for the assumption of an Italo-Celtic unitary stage.

The IIr affinity was so strong that even an IIr mythology can easily be worked out. Use of '*asura*' (Av *ahura*) in the sense of demon in late Vd instead of god as in Av and use of '*deva*' (Av *daēva*) for demon in Av instead of god as in Skt and use of names of gods as evil spirits in Av (Skt *indra-*, Av *indra-*; Skt *nāsatya-*, Av *nā̊ŋhaiθya*-etc.) points out that at one stage Indo-Aryan and Iranian speakers might have quarreled with each other.

The following special features of IIr may be assumed on the basis of comparative evidence of Indo-Aryan and Iranian.

1. IE *a*, *e*, *o*>IIr *a* (Skt Av OP *a*) (24)
2. IE *ə*>IIr *i* (Skt Av OP *i*) (31)
3. IE *m̥*, *n̥*>IIr *a* (Skt Av OP *a*) (27, 28)
4. IE *r̥*, *l̥*>IIr *r̥* (Skt *r̥*, Av *ərə*, OP *r̥*) (35)

5. Positional variation of secondary vowels (32) was best preserved in IIr.

6. Quantitative gradation of ablaut was best preserved, but qualitative difference was lost (61).

7. IE voiced aspirates were retained in IIr.

8. IE velars and labio-velars were palatalized in IIr if followed by a palatal vowel (75).

9. IE *r*, *l*>IIr *r* (Av OP *r* but Skt *r*, *l*) (133).

10. IE *s*>IIr *ṣ̌* preceded by *i*, *u* etc (153), and IE *k̂*>IIr *ṣ̌* (instead of normal *š*) if followed by *t*, *th* (78).

11. IE *z*>IIr *ẓ̌* similarly (like *s*>*ṣ̌*).

12. IE *sk̂(h)*>IIr *šš(h)*. (Av OP *s* but Skt *cch*) (81).

13. IE voiced aspirates+voiceless non-aspirates>voiced +voiced aspirates (Barthclomae's law (287).

14. IE dual number is best preserved in IIr (383).

15. All the eight IE cases are retained (384).

16. Heteroclisis is abundantly preserved (409).

17. IIr developed the following new endings.

(a) sg:Inst. -*nā* (with vowel stems), -*ī* (with *i* stems).

(b) pl : N. double affixation of -*as* (with -*ă* stems), Ac -*s* (with some *ī*, *ū* stems) D- *bhyas* (<perhaps IE *bhyos*), G. *nām*

(c) dl : I-D-Ab *bhyā(m)* (<perhaps IE *bhyōm* or an innovation).

18. The fem *ā* stems have a stem-extension with *ăyā*.

1 . The stem extension of first & second personal pronouns in sg & pl with *-am* e.g. sg IIr *ažham*, *tuvam*; pl *vayam* & *yuẓ̌am* etc. (which was further extended to dual in Skt e.g. *vām*, *āvām*, *yuvām* etc.).

20. The demonstratives *aiša-/aita-* (=Skt *eṣa-/eta-*, Av *aeša-/aeta-*), *sya–/tya–* and *idam/ayam* are in use in IIr.

21. IE Fem decl of the numerals three and four were retained in IIr (as in Celtic).

22. *–ti* is used in instead of IE *–k̂m̥t* for formation of the numerals sixty, seventy, eighty & ninety.

23. $s\underset{\circ}{m}$–(IIr *sa*–) is regularly prefixed to *ĝheslo*– 'thousand'.

24. IE Augment retained its optional character.

25. IE tenses & moods are retained intact.

26. IE middle endings are best preserved in IIr (like Gk).

27. IE –*r* endings are preserved li.e Italo-Celtic, Tokharian & Hittite.

28, Some of the dual endings may be innovations in IIr.

29. The Imperative endings –*tu* & –*ntu* are best preserved in IIr like Hittite.

30. IIr developed a special passive in –ya.

13. Indo-Aryan

IIr has two branches, Indo-Aryan and Iranian, out of which Iranian may be taken up in this chapter (14). Indo-Aryan will be taken up in the next Chapter (Ch. III) for a fuller treatment.

14. Iranian

Iranian also (like Indo-Aryan), presents three stages of development, viz., Old Iranian, Middle Iranian and New Iranian. Records are available in Iranian for all these three stages. Old Iranian records which are more importa t for a comparative study, are considerably less in quantity, though the picture of Old Iranian is well-representeu by them. Old Iranian presents clearly distinct records of at least two dialects, viz., Avestan (16), and Old Perian (17). Avestan was the language of Eastern Iran and Old Persian was the language of Western or South-Western Iran. Avestan was written in Avestan script and Old Persian inscriptions are written in a cuneiform script.

15. Special Features of Old Iranian

The following are some of the important special features of Old Iranian, as distinguished from Old Indo-Aryan.

1. IIr $\bar{\underset{\circ}{r}}$ & $\underset{\circ}{r}r$ > OIr *ar* (Av & OP *ar*) but they are distinct in Skt (vide 41. 42 & 45)

2. IIr diphthongs *ai, au, āi āu* remained intact in OIr but became *e, o, ai, au* in Skt (47)

3. IIr voiceless aspirates became voiceless spirants in OIr and voiced aspirates became devoiced in OIr, but both the types of aspirates are retained intact in Skt; e.g.

IIr *atha*>Av *aθă* but Skt *atha.*

IIr *bhrātā*>Av & OP *brātā* but Skt *bhrātā.*

4. IIr *k. t, p*>OIr χ, θ, *f* in most conjuncts, whereas they were retained intact always in Skt; e.g.

IIr *pra*>Av & OP *fra,* Skt *pra.*

IIr *tvām*>Av *θwąm,* OP *θuvām,* Skt *tvām.*

5. IIr *cy*>OIr *šy,* but Skt retained *cy,* e.g.

IIr *cyav–*>OIr *šyav–,* Av *šyav–,* OP *šiyav–,* but Skt *cyav–.*

6. IIr *r* (<IE *r* & *l*) remained *r* in OIr, whereas in Skt IIr *r*> *r* & *l* (130 b)

7. IIr *ṣ̌* (<IE *s* after *i/u/r̥/k̂* etc)>OIr *š* (Av & OP *š*), but Skt *ṣ* (153). IIr *ṣ̌*<IE *k̂* before *t/th* also had similar treatment (78, 78a)

8. IIr *ẓ̌* (<IE *z* after *i/u/r̥/ĝ* etc)>OIr *ž* (Av & OP *ž*),but lost in Skt (157). IIr *ẓ̌*<IE *ĝ* before *d/dh* also had similar treatment (84 & 85)

9. IIr *tst(h)*>OIr *st* (Av & OP *st*), (108) and IIr *dzd(h)*>OIr *zd* (Av & OP *zd*) (117),

10. IIr *ts/ths*>OIr *ss* (cp Av *s*), e.g. IIr *matsya–*>OIr *ma(s)sya–*>Av *masya–* cp Skt *matsya–* 'fish'.

11. IIr *dz/dhz*>OIr *zz* (Av *z*); e.g. IIr *madhzauš* (<IE *m̥ndhzeus*)>OIr *mazzauṣ̌*>Av *mazaoš* 'attentive' cp Skt *māndhātā* 'a name' (lit. 'attentive').

12. IIr voiced sibilants were retained in OIr as voiced sibilants. But Skt shows no voiced sibilant.

IIr *ž* (<IE *ĝ*) & IIr *žh* (<IE *ĝh*)>OIr *z*, Skt *j* & *h*.

IIr *z* & *ẓ̌* (<IE *z*)>OIr *z* & *ž*, but lost in Skt.

13. IIr *sš(h)*<IE *sk̂(h)*>OIr *s*, but Skt *(c)ch* (81).

14. IIr *s*>OIr *h*, Skt *s*; e.g. IIr *sama-* (<IE *sm̥mo-*)> OIr *hama-*, cp Av *hama-*, OP *hama-*, but Skt *sama-*.

15. IIr *ṣ̌ṣ̌* (<IIr *šṣ̌* <IE *k̂s*) & IIr *kṣ̌* (<IE *qs/q*^{w}*s*) are distinguished in OIr as *š* & *χš* respectively, but both have become *kṣ* in Skt (79, 89, 98).

16. Only OIr retains clearly the optional (or dialectal) treatment of IE voiced aspirate+*s* becoming voiced aspirate +*z* (74c-ii)

17. OIr shows *i*-extension of *a*-stems (=IE *o*-stems) further in I-D-Ab dual; e.g. OIr *asva-i-byā*, cp Av *aspaē*^{i}*bya*, OP *dastaibiyā*, but Skt *hastābhyām*.

18. OIr has retained the IIr acc pl *-as*(<*-n̥s*) & gen sg *-as* (<*-es/os*) of *r̥-* stems, whereas Skt has almost lost them e.g. IIr *pitr-as*>OIr *piθr-ah* cp Av *fəδrō*, but Skt *pitr̥n* (acc pl) IIr *dātr-as*<OIr *dāθr-ah* cp Av *dāθrō*, but Skt *dātuḥ*.

19. Post-postion *ā* was very frequently used with loc sg & pl in OIr. cp loc sg Av *zastay-a* <IIr *žhastai*+*ā* cp Skt *haste*. cp. loc pl. OP *mādaišuv-ā*, Av *gaēθāhva*.

20. OIr does not show the final *-m* im I-D-Ab dual & loc sg fem in contradistinction to Skt; e.g I-D-Ab dual OIr *-byā*, Skt *bhyām*; loc sg fem OIr *-yā*, Skt *-yām*

21. OIr shows extensive use of the demonstrative pronoun *ava-* (cp Av & OP *ava-*), which is quite rare in Skt.

22. OIr uses the sg ending *-nā* with pronominal stems in *-a*; in such cases Skt uses *ină;* e.g. Av *kana* cp Skt *kena* OP *tyanā* cp Skt *tyenă*.

23. IIr *yužam* 'you' has been inherited intact in OIr; cp Av *yužəm*. But Skt *yūyam* is a new formation after *vayam*.

24. Numeral *aiva* 'one' is peculiar to OIr; cp Av *aēva-* OP *aiva*; cp Skt *eka-*, Lat *ūnus etc*.

25. IIr prepostion *ana* is retained in OIr, but lost in Skt.

26. IIr active first person plural ending *-masi* & dual ending *-vasi* were generalized in OIr (cp OIr-*mahi* & *-vahi*) at the cost of *-mas* & *-vas* (cp Skt *masi/mas* & *-vas*).

27. The second personal & third personal dual endings have overlapped in OIr.

28. OIr shows a peculiar middle subjunctive first person sg ending *-nai* (cp Av *yazāne*) unparalleled in Skt.

29. Present participle middle *-mna* (weak grade) was peculiar to OIr; cp Av *baramna-*, OP *χšayamna-*. Gk shows strong grade *-meno* & Skt shows long grade *-māna* (< IE *-mēno*) in such cases.

30. OIr sometimes shows active endings with passive in *-ya*. This is uparalleled in Vedic & Paninian Skt. cp Av *k'rye'ti* but Skt *krīyate*.

16. Avestan

Avestan is the language of the Avesta, the sacred book of the Zoroastrians. Avesta has portions called Gathas, which are more archaic than the rest. Thus Avestan presents two clear stages of chronological development : Gathic Avestan or language of the Gathas and younger Avestan. The Gathas are according to tradition composed by Zoroaster Zaraθuštra), who also accordingly belongs to the 6th century BC. Younger Avestan which a later phase of the language may belong to the 3rd or 4th century BC. Gathic Av always lengthens final vowels where as younger Av always shortens them. Intervocal *b,d,g,j* > *w*, *δ*, *γ*, *ž* ie Younger Avestan very often.

Special Features of Avestan

1. IIr *a*> Av *a, ə, e, o, i,* whereas OP and Skt always show *a* in these forms, e.g.

Av *apa*, Skt *apa*, OP *apa*, Gk *apó*

Av *təm*, Skt *tam* Gk *tón*.

Av *yim*, Skt *yam* Gk *hón*.

Av *yehe*, Skt *yasya*, gk *hóio*

Av *vohu*, Skt *vasu*, OP *-va(h)u-*, Gk *eu-*

2. Original length of vowels has been considerably disturbed in Av. All final vowels have become long in gAv and short in yAv. There are other anomalies as well (Vide Misra s

Avestan Grammar 9a)

3. IIr *ai* > Av *aē, ōi, e* and IIr *au* > Av *ao, ə̄u, o,* e.g., IIr *tai* > Av *tōi, taē-ca, te,* Skt *te,* OP *taiy,* Gk *toi*

IIr *gauš* > Av *gə̄uš, gaoš,* Skt *goḥ.*

IIr *vāyau* > Av *vayō* Skt *vāyo*

4. Epenthesis of *i/u* is a regular feature in Av, when the following syllable has *ĭ/e/y* and *u/v* respectively.

cp Av $a^{i}pi$ = Skt *api*; Av $po^{u}ru$=Skt *puru*-

5. IIr final conjuncts are retained in several forms in Av, where Skt has simplified the same; eg. IIr *vākṣ̌* > Av *vaχš,* Skt *vāk* Lat *vōx.*

6. IIr final *t* > Av *t*, cp Av *tat*=Skt *tat.*

7. IIr *pv* > Av *f*, cp Av *āfənt* < IIr *āp-vant.*

8. IIr *ps* > Av *fš* e.g. Av *drafša* Skt *drapsa.*

9. IIr *s* (OIr *h*) > *ŋh* medially very often ; e.g. IIr *manasas* > Av *manaŋho* cp Skt *manasaḥ* Gk *méneos*

10. IIr *sr* (OIr *hr*) > Av *ŋr* medially; e.g IIr *sažhasra*- > Av *hazaŋra*-, Skt *sahasra.*

11. IIr *sv* (> OIr *hv*) > Av x^{v} very often; IIr *sva*- > Av $x^{v}a$-, Skt *sva*-, Lat *suus.*

12. IIr *šv* > Av *sp*

IIr *ašva*- > Av *aspa*-, Skt *aśva*-, Lat *equus.*

13. Prothetic χ before *s* is found in several forms; IIr *sma* > Av *χšma*-.

14. IIr *rt* > *š*, if the preceding vowel was accented; e.g. Av *aməša*-, Skt *amṛta*-

15. IIr *t(h)s* > OIr *ss* > Av *s*; e.g. IIr *matsya*- > Av *masya,* Skt *matsya*-

16. IIr *d(h)z* > OIr *zz* > Av *z*; e.g. IIr *madhzauṣ̌* > OIr *mazzauš* > Av *mazaoš* (nom sg) 'attentive', cp Skt *māndhātā.*

17. Av extended abl sg from *a*-stems to other stems; e.g. *ā*-stem *aspayāt*, *i* stem *ažōit*, *u* stem *xrataot* *χraθwat* etc.

18. Av distinguishes genitive and locative dual; this is unparalleled elsewhere.

19. Av often shows NIL ending in neuter plural beside IIr ending *-i*, which is rare in Av.

20. Use of *χšma-* (<IIr *sma-*) as second personal pronoun is unique in Av and now it is paralleled only in Hittite *sume-/sme-*.

21. Av sometimes shows the first personal thematic ending *-ā* (<IE*-ō*), beside the IIr new formation *āmi*, whereas Skt has fully replaced *ā* by *-āmi*. e.g.

IE *spek̂yō*> IIr *spašyā(mi)*> Av *spasyā*, Skt *paśyāmi*, Lat *specio*.

22. The Augment is extremely rare in Av.

23. Av shows a special classification of vocab[illegible] as Ahura & Daeva words.

17. **Old Persian**

Old Persian is the languge of the inscriptions of the Achaemenian emperors written in cuneiform script dating from the 6th century BC.

Special Features of Old Persian.

1. IIr diphthongs *ai, au, āi, āu* were retained intact in OP only, whereas in Skt and Av they were subject to phonetic changes.

2. All final consonants, except *-m,-r,-š* are lost in OP.

3. Final *a* is written *ā* & final *i* & *u* are written *iy* & *uv* respectively in the OP inscriptions.

4. IIr *ś, ž, žh* (<IE *k̂, ĝ, ĝh*)>OP *θ, d, d*. (Here perhaps *d*<*δ).

5. IIr *ty* (>OIr *θy*)> OP *šy* (written *šiy*); e.g. *hašiya-* cp Skt *satya*, Av *haiθya-*

6. IIr *tr* (>OIr *θr*)> OP s^r (Printed in various books as $θ^r$ or *s* also); e.g. *pus*^{r}*a*, Skt *putraḥ*, Av *puθrō*.

7. IIr *šv* (<IE*k̂w*)>OP *s* (Av *sp*, Skt *śv*), beside *sp*; OP *visa*, Av *vispa-* Skt *viśva-*, beside OP & Av *aspa-*, Skt *aśva-*

8. Use of dual was restricted to natural pairs

9. Dat was lost in OP like MIA.

10. Use of Post-postion *-ā* with loc sg is more frequent in OP than Av.

13. Demonstrative iyam is used as masc in OP, whereas it is fem in Skt and Av.

14. OP has replaced the use of demonstrative IIr *sa–/ta–* by the demonstrative *sya–/tya.*

15. Strong grade of √*as* is generalized for weak form sometimes; e.g. OP *ahmahiy* = Av *mahi*, Skt *smasi.*

16. Augment was compulsory like classical Skt.

17. Modal distinction is found Chiefly with present like Classical Skt.

18. Perfect is traceable only in one form *caχriyā* cp. Skt *cakryāt.*

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CHAPTER III

INDO-ARYAN

18. Indo-Aryan

Indo-Aryan has three clear stages of development : (a) The Old Indo-Aryan or Sanskrit, comprising the Vedic and Classical Sanskrit; (b) The Middle Indo-Aryan, which shows three substages; 1st MIA comprises Aśokan prakrits & Pali; 2nd MIA has Niya prakrit (transitional from Ist MIA to 2nd), Sauraseni, Maharastri, Magadhi, Ardhamagadhi & Paisaci; 3rd MIA is Apabhraṃśa and the last phase is Avahaṭṭha which is also transitional from MIA to NIA (c) New Indo-Aryan comprises several languages Hindi, Oriya, Bengali, Panjabi, Sindhi, Gujrati, Marathi, Assamese etc. Full picture of OIA is given below. MIA is characterised mainly by change of ṛ to *a*, *i*, *u*, *ra*, *ri*, *ru*, assimilation of conjuncts and loss of final consonants. NIA is characterised by simplification of double consonants and use of post positions for case expressions.

Old Indo-Aryan

The importance of OIA in IE comparative grammar lies in the fact that the study of Skt by the Western scholars resulted in the birth of a new science, the comparative philology. This is clear from the following words of Sir William Jones which he delivered in an address to the (Royal) Asiatic Society of Bengal in 1786 :

"The Sanscrit language whatever be its antiquity, is of wonderful structure, more perfect than the Greek, more copious than the Latin and more exquisitely refined than either; yet bearing to both of them a stronger affinity both in the roots of verbs and the forms of grammar than could possibly have been produced by an accident. So strong indeed that no philologer could examine them at all without believing them to have sprung from some common source, which perhaps no longer exists. There is a similar reason, though not quite so forcible

for supporting that both the Gothick and the Celtick though blended with a different idiom had the same origin with the Sanscrit and the Old Persian might be added to the same family."

OIA consists of two stages of development roughly speaking. These are Vedic and Classical; each of these stages shows several substages from linguistic point of view. The language has gradually developed and in each stage or sub-stage either something old is lost or something new has come into being or something new has replaced something old. The history of Indo-Aryan comes under about 7000 years with 5000 years before Christ and 2000 after him. OIA and MIA have 2500 years each and the rest 2000 is that of NIA which is continuing even now. The history of OIA starts with Vedic which actually shows a bulk of literature which may be classified chronologically as well as linguistically under four stages of development : Saṃhitā, Brāhmaṇa, Āraṇyaka and Upaniṣad. These are traditionally termed as apauruṣeya (impersonal) and that shows their ancient character. The Sūtra literature which come next and which are not termed as *apauruṣeya* form a transition between Vd & Cl. Cl Skt starts with the epic literture which also shows some linguistic peculiarities and thus may be termed as early Classical. Cl proper which may also be termed as middle Cl is nothing but the Skt modelled (Saṃskṛtam) after Pāṇini's powerful grammar. Still a late Cl Skt also developed side by side with MIA due to the strong influence of MIA on OIA . This influence is noteworthy mainly with the overloaded Middle Indic vocables and sometimes some simplifications of grammatical complications without disobeying Pāṇini's authority.

The Saṃhitās which form the first stage of Vedic Sanskrit are four : Ṛgveda, Atharvaveda, Sāmaveda & Yajurveda.

Ṛg Veda

RV is undoubtedly the oldest document of the IE language family. The date of the RV is quite controversial,

but that it is the oldest IE document, is almost free from controversy. On linguistic basis it is now preferable to put RV beyond 2000 BC. Without going into details of the controversy regarding the date of the RV this much will suffice for our consideration that even before the discovery of Ht the date of RV was accepted as 1500 BC by great linguists like Brugmann. The Anatolian documents present some Indo-Aryan borrowings which were erroniously taken by several scholars as Indo Iranian. The words on horse training include *aika* 'one' which is not attested outside Indo-Aryan. The names of Ṛgvedic gods also present an important evidence in favour of accepting these forms as Indo-Aryan borrowings, as the corresponding Iranian names do not show them necessarily as gods. On the basis of this borrowing Indo-Aryan antiquates Anatolian and demands a date beyond 2000 BC. These forms have been studied in details by the present author, and they have been shown as forms belonging to an early stage of MIA, which proves that the date of RV must be assigned to a much earlier date. The language of the Indus seals as recently deciphered by S. R. Rao present an Indo-Aryan language. The present author has scrutinized the language presented and has shown that the language belongs to a transitional stage of MIA like the language of the borrowings in Anatolian. Therefore MIA itself claims a much earlier date than normally assigned by linguists. Recently further linguistic evidence shows that Ṛgvedic words are attested as loan words in the Finno-Ugric languages. The oldest of such words have been assigned to 5000 BC by Harmatta who however has wrongly shown them as IIr. The present author has proved that these forms are not Indo-Iranian but Ṛgvedic Indo-Aryan. This brings the date of RV to about 5000 BC, if not earlier.

Moreover from linguistic development also, RV presents the parent IE in such an accuracy which demands its status of a motherly elder sister to Gk and Ht. Futile attempts have been made to establish Ht as an elder sister of Skt and Gk on the

basis of the Largnyeal theory and the Indo-Hittite theory. But these are not universally accepted, and the linguistic changes in Ht, such as loss of length, syncretism etc. advocate against its ancient character. The Indo-Hittite theory is seriously accepted hardly by a few linguists and the Laryngeal theory which has attracted the attention of some linguists because of some noteworthy features is not yet established in view of the contradictory evidences shown even in the Anatolion languages on which the Laryngealists bank upon. Moreover the linguistic changes like assimilation etc. which are frequent even in Gk, the second important language in IE family, is almost totally absent in OIA and first appear only in MIA. Most of the IE historical languages are comparable to MIA in chronology and in linguistic changes. Thus OIA demands an earlier date in view of its archaic data, and therefore this might belong to 5000 BC if not to an earlier date, as proved by recent linguistic evidences.

The RV comprises 10 Maṇḍalas (There is another traditional way of classification of RV into 8 Aṣṭakas and each into 8 Adhyāyas and each Adhyāya into several Vargas and each Varga into several Ṛks. This classification is useful for sacrifices and has no linguistic importance). The 10 Maṇḍalas are subdivided into several Anuvākas and each Anuvāka is further subdivided into several Sūktas and each Sūkta into several Ṛks. There are in total 10 Maṇḍalas, 85 Anuvāks, and 1017 Sūktas besides 11 additional Sūktas called as Khilas or Bālakhilyas which do not have any padapāṭha. The number of the verses (Ṛks) is given as 10580¼ and of the words (padas) as 153826 and of the syllables (akṣaras) as 432000 in the Ṛgvedasarvānukramaṇī.

The RV is linguistically subdivided as follows : (a) The family maṇḍalas comprising second to seventh maṇḍalas are the oldest portions of RV. (b) The 8th maṇḍala was added to these next. (c) The first and ninth were additions in the next stage. (d) The tenth was added still later. The linguistic difference of tenth to the first nine is greater than the linguistic

difference of the rest to each other. Therefore roughly speaking the early Ṛgvedic stage includes the first nine maṇḍalas and the late Ṛgvedic the tenth.

The Other Saṃhitās

Linguistically the other three Saṃhitās belong to the next Vedic stage. But this stage may be divided under two heads : (a) AV, SV and the mantra portions of the YV. (b) The prose portions of YV which come closer to the language of the Brāhmaṇas. AV is quite important linguistically as the mantras in AV are mostly original ones and independent of RV, whereas the mantras of SV & mantra portions of YV are mostly repetitions of RV and thus present very scanty new linguistic material.

The YV on the other hand is important in presenting the earliest OIA prose. YV has several recensions which are chiefly called as the Śukla (white) and the Kṛṣṇa (black). The Śukla YV which is also called as the Vājasaneyī Saṃhitā has two recensions : (1) Mādhyandina & (2) Kāṇva, and the Kṛṣṇa has four recensions viz. Taittirīya, Maitrāyaṇī, Kaṭha and Kapiṣṭhala-kaṭha, out of which Taittirīya is the most important one.

Vedic prose

Vedic prose shows one linguistic unit with several substages. The first stage is found in the prose portions of YV. Next are the Brāhmaṇas. The Brāhmaṇas present the treatment of sacrifices and they are also affiliated to different Saṃhitās and their recensions. The important Brāhmaṇas are Śatapatha (: YV), Aitareya (: RV), Pañcaviṃśa or Tāṇḍya (: SV), Gopatha (: AV) and many others. The Āraṇyakas come next and the important ones are Aitareya, Taittirīya and Bṛhadāraṇyaka. The Upaniṣads form the last phase of the apauruṣeya literature. Some important ones are Iśa or Iśāvāsya, Chāndogya, Aitareya, Bṛhadāraṇyaka, Kaṭha, Kena etc. The

Āraṇyakas and Upaniṣads are sometimes found in the last chapters of the Brāhmaṇas.

Early Classical or Epic Sanskrit

Classical Sanskrit actually starts with the epics Rāmāyaṇa and Mahābhārata. These present some morphological peculiarities not permissible by Pāṇini's norm and consequently these are lost in the standard classical literature, but this flow of the language is preserved in the Purāṇic literature.

Traditionally Rāmāyaṇa preceds Mahābhārata not only in events but also in the traditional chronology of the composition of the two great epics. Traditionally Rāmāyaṇa was composed by Valmīki who was contemporay of Rāma and belongs to the Tretā yuga. Traditionally also Mahābhārata was composed by Vyāsa who was contemporary of Kṛṣṇa and belongs to the Dvāpara yuga which comes next to Tretā. Recent linguistic chronology assigns 5000 BC to RV. 2500 BC is the date assigned to Indus seals, the language of which is now known to be a very early MIA, as described by me in details elsewhere[1]. The date of Early classical or Epic Skt therefore must belong to a date like 3500 BC.

The language of Epic Sanskrit comprises not only Rāmāyaṇa and Mahābhārata but also many purāṇas. Several western scholars seem to present a confused approach to the relative chronology of these works of epic literature. First of all it may be pointed out that without any basis they consider Rāmāyaṇa to be later than Mahābhārata, against the Indian tradition. There is no linguistic ground for putting Rāmāyaṇa later than Mahābhārata. The only ground shown by some is that Rāmā-

1. Language of the Indus Seals are shown as Indo-Aryan by S. R. Rao in his work Decipherment of the Indus Script, Delhi, 1983. Present author has analysed his decipherment and has shown that it presents a language transitional between OIA and MIA (vide Misra, S. S. : Indo-Aryanness of the language of the Indus Seals, Bharati, New Series, Vol. I, 1984).

yaṇa is ornate poetry. But this is just a matter of variation in style and therefore is not sufficient to refute a tradition.

The purāṇas have been more pitiably dealt with by western Sanskritists like Burrow, who have gone to the extent of describing epic forms as incorrect forms. But the Epic Sanskrit which includes the language of purāṇa presents the wide spread Classical Sanskrit with natural dialect variations, as opposed to the Pāṇinian Sanskrit which was more or less based on Pāṇini's norm. Pāṇini's norm must have been based on one particular dialect at a time, when the language has become Middle Indo-Aryan. The Epic Sanskrit which includes Rāmāyaṇa, Mahābhārata and purāṇas show dialectal divergences to some extent and is the direct ancestor of MIA and not modelled after MIA as some western scholars have wrongly remarked.

Since Epic Skt starts from 3500 BC, language of the Rāmāyaṇa may be assigned to 3500 BC approximately and language of the Mahābhārata to 3000 BC. The purāṇas come later in chronology.

Standard Classical or Pāṇinian Sanskrit

Classical Sanskrit is often called Pāṇinian Sanskrit. Western scholars are of the opinion that this is an artificial continuation of Old Indo-Aryan in the MIA period. This is only partially true. Pāṇini must be belonging to the MIA period, since now linguistic evidence puts the date of MIA as 2000 BC or 2500 BC. But it is probable that Classical Sanskrit was a natural flow of the language being the next stage of Epic Sanskrit. At best it may be said to be in a way an elder sister of MIA from dialectal point of view. Dialect survey shows that some dialects are more orthodox than the others, with minimum linguistic changes, whereas other dialeects have greater changes. Similarly Classical Skt retained the OIA nature almost fully. The dialects which were subject to lingistic change first of all had very little change presenting a sort of transiti-

onal stage between OIA and MIA as illustrated in the language of Anatolian loan and in the language of the Indus seals (vide foot note in p. 23). Gradually the changed language became a language like Buddhist Sanskrit (the so called Buddhist Hybrid Sanskrit, which is now known to be a natural language and not a hybrid language). Later on this became MIA. Classical Skt continues as a literary language or a language of the elite and finally the powerful hands of Pāṇini patronised the same in his grammar which is responsible for our record and analysis of this important language.

Late Classical Sanskrit

A still Late Cl Skt naturally developed in course of time due to unavoidable influence of MIA. The influence was mainly in use of Middle Indic vocabulary in Cl Skt and replacement of inflectional complications by long compounds. In NIA period NIA also influenced the late Cl Skt.

19. Special Features of Old Indo-Aryan

The following are some of the special characteristics of Old Indo-Aryan, in general, without any distinction of Vedic or Classical. These features distinguish Skt from Indo-Iranian or Indo-European, as well as from the sister languages.

1. IE voiced aspirates which are retained only in Indo-Iranian of all the IE languages are consequently retained only in Skt out of the IIr languages.

e.g. IE *bhrātēr*>IIr *bhrātā*>Skt *bhrātā*, but AV *brātā*, Gk *phrắtēr* (127)

2. IIr r̥̄ (<IE r̥̄&l̥̄) became *īr* & *ūr* in Skt (41 & 42) and IIr *r̥r* (<IE *r̥r* & *l̥l*) became *ir* & *ur* in Skt (45).

3. IIr r (<IE *r* & *l*) became once again *r* & *l* in Skt. Thus Skt *r*<IE *r* & *l* and *l*<IE *r* & *l* (130b).

4. IE *sk̂(h)* (which became *šš(h*) in IIr (became *cch* in Skt (81).

5. IIr *ž* & *žh* (<IE *ĝ* & *ĝh*)>*j* & *h* in Skt and thus the distinction of IIr *j* & *jh* (<IE g/g^{w} & $gh/g^{w}h$ followed by a

palatal vowel) and *ž* & *žh* was lost in Skt (76)

6. Skt has developed a set of cerebral sounds which were not in IIr nor in IE.

7, Skt has not retained any of the voiced sibilants of IE & IIr.

8. Skt does not tolerate a final conjunct.

9. IIr diphthongs *ai, au, āi, āu* became respectively *e, o, ai, au* in Skt.

10. If two aspirates occured in consecutive syllables one of them was deaspirated in Skt (71).

11. Skt has developed an anusvāra (*ṃ*) after vowels and before sibilants in some cases (e,g. *vīṃśati, manāṃsi, vidvāṃsaḥ* etc.) which is not historical.

12. IE dual was not only best preserved in Skt, but it was fully established for expressing any object in two, which may not necessarily be a natural pair.

13. All the eight cases were retained in Skt (as in IIr).

14. Some new endings appear in Skt (besides the IIr new endings are inherited in Skt 12(19).

(a) Sg : Inst *-inā̆* (with *-a* stems); Dat *-āya* (with *-a* stems), Loc *-ām* (with fem vowel stems).

(b) Pl : Acc *-n* with Mc *-r* stems & *-s* with Fem *-r* stems. *-ni* (an additional particle) was used with neut vowel stems.

(c) Dl : Nom-Acc *-au* was extended to consonantal stems.

15. Neut stems in *-i, -u* were extended to *-in* & *-un* also in dual (such extensions are attested in other languages, but not in dual).

16. Skt retains (though in a few instances in RV) IE Gen sg *-s* with *-a* stems also (which is lost in all others except Hittite).

17. Skt extended *-m* to Nom-Acc dual of personal pronouns e.g. *āvām, yuvām* etc.

18. Domonstrative *asau/adas* is peculiar to OIA.

19. The numeral 'one' is *eka*– in Skt, which, although of IE origin, is not attested in other IE languages including Iranian.

20. Forms like *ekonaviṃśati*, *ūnaviṃśati* 'one less twenty' for 19 etc are new developments.

21. Skt has invented new terms for numerals beyond thousand.

22. *prathama* for 'first' is peculiar to Skt, with *–tha-ma* suffix.

23. Out of several IE present classes Skt retained only ten classes, with a few sporadic occurrences of the other classes.

24. Skt shows maximum types of aorist formations.

25. Skt developed the following periphrastic tenses: (a) Periphrastic Perfect (b) Periphrastic Future (c) Periphrastic present.

26. Formation of past tense with the use of particle *–sma* to present form of the verb is unique in Skt.

27. Skt developed conditional (726) out of Future.

28. Skt developed a Precative or Benedictive (717) mood from aorist bases with optative endings.

29. Skt shows a number of Infinitives which are not attested in other IE languages, though they might have been of IE origin.

30. Evidence for IE accent is best preserved in Skt.

31. Skt formed compounds quite extensively and could have any number of components, whereas in IE originally a compound could have only two or three components.

20. Vedic Sanskrit and Classical Sanskrit :

Vedic and Classical Skt show the two different stages of development of Old Indo-Aayan. The chief features which distinguish the two are :

(A) Phonological

(1) Probably in RV *e, o, ai, au* were *ai, au, āi, āu* (21 A-1) whereas in Late Vedic and Classical Skt they are *e, o, ai, au.*

(2) In RV intervocal *ḍ* & *ḍh* > *ḷ* & *ḷh.*

(3) In Rv *y* & *v* are often to be read as *iy* & *uv.*

(4) Cerebralization of dentals occurred even in external sandhi in Vd, but only in internal sandhi in Cl.

(5) IIr *r* was retained as *r* in most of the cases in early Vedic, whereas gradually *l* became more and more predominant and in Cl Skt *r* & *l* both are equally prominent.

(6) Sandhi retained its historical character in Vd, whereas in Cl in several cases there are innovations.

(a) In Vd *a* was often retained after *o* as the metre indicates. But in Cl loss of *a* was a must.

(b) In Vd acc pl *ān, īn, ūn*+a vowel (<IIr *ans, ins, uns*+a vowel> *ā̃, ī̃r, ū̃r*+a vowel, whereas in Cl they remain *ān, īn, ūn*+a vowel. The Vd forms show the original change of *s* to *z* and subsequently to loss of *z* after *ā* and to rhotacism of *z* after *ī* & *ū* which is quite historical.

(c) Similarly acc *ān+t* > Vd & Cl *āṃst* and acc *ān+c* > Vd & Cl *āṃśc* (e.g. *devāṃstāṃśca)* and Nom sg *n+t/c* > *ṃst/ṃśc* (e g. *gacchaṃśca* but in Cl this was extended to all cases of *n+t/c* which are not historically justified (e.g. *agacchaṃstatra* for *agacchan-tatra*).

(B) Accent

Accent was quite significant in Vd but has no role in Cl Skt. In Vd a neuter form (*ápas* 'work') and a masculine form (*apás* 'active'), an action noun and an agent noun could be determined by the position of accent. Similarly also a Bahuvrīhi (*rā́japutra*) and a Tatpuruṣa (*rājaputrá*) were distinct.

(C) Stem Formation

In stem formation several Vd formatives like *-āka, -uka, -enya, -eyya, -tna, -tat, -tāti, -tnu, -tu, -tri, -tru, -thi, -thu,*

–min, –yu etc were no longer productive. they were retained in a few inherited words only.

(D) Compounds

(1) In Vd the compounds consist normally of two components and rarely of three components but never of more than three, whereas in Cl there is no limit to the number of components.

(2) The governing compounds are peculiar to Vd. In Cl they remain only in some inherited Vd names like *Jamadagni*, *Bharadvāja*. etc.

(3) The Bahuvrīhi compounds do not need a pleonastic *–ka* in Vd even after *r̥* etc. (e.g. *hatámātr̥–*) but in Cl this is a must (e.g. *hatamātr̥ka–*),

(E) Nominal Declension

(1) The dual number was restricted in Vd to natural pairs chiefly, although it was sometimes used for two gods often invoked together. But in Cl dual was always used to anything expressed in two's, whereas in Vd as in Homeric Gk often pl serves the purpose of the dual in such cases; e.g. RV *hr̥dayāni nau* = Cl *hr̥daye nau* 'our hearts', cp Homeric Gk *Atreîdai* pl = O two sons of Atreus!

(2) Out of the following Vd alternative declensional forms only the second types were retained in Cl e.g. Nom-Acc dual *devā : devau*; Nom pl *devāsaḥ : devāḥ*, Acc pl *madhvaḥ : madhūn*, Inst sg *devā : devena;* Inst pl *devebhiḥ : devaiḥ;* Abl-Gen sg *avyaḥ : aveḥ; paśoḥ : paśoḥ*; Gen pl *devām* (very rare) : *devānām; narām : nr̥ṇām; paśvām : paśūnām;* Loc sg *viṣṇavi : viṣṇau; rājan : rājani; gaurī : devyām;* Voc sg *bhagavaḥ : bhagavan;* Neut Nom-Acc pl *yugā : yugāni; trī : trīṇi;* Abl-Gen sg *madhoḥ : madhunaḥ; śuceḥ : vāriṇaḥ.*

(3) In the following classical alternative declensional forms the second ones are not found in Vd and are new formations in Cl, e.g.. Dat sg *dhiye:dhiyai*, Abl-Gen sg *dhiyaḥ* :

dhiyāḥ, Loc sg *dhiyi* (also not really attested in Vd):*dhiyām*, *bhruvi* : *bhruvām* etc.

(4) Several declensional forms are not attested in Vd but occur in Cl although they are sometimes historical e.g. Cl Nom sg *rāḥ* (Lat *rēs*), Cl Dat sg *śune* (Av *sūne*), Cl Loc pl *śvasu* (Gk *kúnessin*).

(5) Vd *devī* and *vṛkī* type have merged into one in Cl (*nadī type*) though *vṛkī* type is retained in some isolated cases.

(6) Many Vd heteroclitic stems have been replaced in Cl by generalization of the stem in Nom e.g., Nom *yakṛt*, Gen *yaknaḥ* but Cl *yakṛtaḥ* as well. Similarly Nom *asṛk*, Gen *asnaḥ*, but Cl also *asṛjaḥ*. So also Nom *udakam*, Gen *udnaḥ*, Cl also *udakasya* etc.

(F) Pronominal Declension

(1) In the first and second personal pronouns the following forms are restricted to Vd. Sg Loc *tve*, Dual Nom *āvám*, *yuvám* and Abl *āvat and yuvat*, Inst *yuvabhyām;* Pl Dat-Loc *asme*, *yuṣme* and Gen *asmāka*, *yuṣmāka*.

(2) The following demonstrative and indefinite pronouns are restricted to Vd : (a) demonstrative *ama* (rare), *ava*, *sya*, *tya*, *eṣya*, *etya*, *tva* and (b) indefinite *sama and sima*.

(G) Numerals

(1) The following ordinals were restricted to Vd : 1st *pratama*, 2nd *dvita*, 3rd *tṛta*, 4th *turīya*, *turya* (rare in Cl), 5th *pañcatha*, 7th *saptatha*.

(2) The numeral derivative *tredhā* is also restricted to Vd.

(H) Verb

(1) Vd (as in IE) had three tense systems viz. present, aorist and perfect and each of these tenses had five moods viz, indicative, imperative, optative, injunctive and subjunctive. Cl has only indicative mood with aorist and perfect. The present

also shows only three moods in Cl viz. indicative, imperative and optative. The subjunctive is lost in Cl. but the 1st personal subjunctive forms are extended to the imperative. The injunctive remains in single idiom only viz. with the prohibitive particle *mā* e.g. *mā gāḥ*.

(2) Augment is optional in Vd (as in IE) but compulsory in classical.

(3) The following Vd alternative personal endings are absent in Cl : 1st pl *masi* (primary), 2nd pl *thana* (primary), *tana* (secondary), *dhva* (rare) (middle), 3rd pl *-re, rire, -ram, -ranta, -rām.*

(4) The perfect which originally meant a completed action in Vd, came to be used for remote past in Cl.

(5) Vd alternative perfect forms like *vavāsa, vavāca* were replaced in Cl by forms like *uvāsa* & *uvāca* etc.

(6) The pluperfect is restricted to Vd only.

(7) The periphrastic perfect was not used in the Saṃhitās. It started to be used in the Brāhmaṇas and was established in Cl.

(8) The future, which was often expressed by present indicative and subjunctive, was formed specially with *-sya-* with a few roots in Vd (ṚV 16 roots, AV about 50 roots, YV about 60 roots) but from all roots in Cl.

(9) The periphrastic future started in the Late Vd and was established in Cl.

(10) The conditional was very rare in Vd, and comparatively more frequent in early Cl or Epic Skt and is lost later.

(11) The benedictive or precative is more frequent in Vedic,

(12) In the formation of the gerundive RV shows the suffixes *-āyya* and *-tva* besides *-ya* and *-enya*. AV shows *-tavya, -anīya, -ya* and *-enya* and Cl shows *-tavya, -anīya,* and *-ya*. In other words *-āyya* & *-tva* are restricted to RV and *-enya* to Vd and *-tavya, -anīya* are unknown to RV.

(13) In the formation of the gerund *-tvi* and *-tvāya* are restricted to Vd. Cl -*(t)ya* often occurs as *-tyā* in Vd.

(14) Cl has only one type of infinitive viz. the infinitive in *-tum*, whereas Vd is rich with several types of infinitives.

(15) The upasargas must be prefixed to verbs in Classical, which was not so in Vd.

(I) Particles

The following conjunctive and adverbial particles are restricted to Vd viz. *adha, aha, āt, it, īm, kuvit, tu* (emphatic, Cl *tu* is adversative), *na* (comparative, Cl *na* is only a negative particle).

(J) vocabulary

In vocabulary also Vd & Cl differ to some extent. Several Vd words are out of use in Cl and on the otherhand Cl has new loan words from MIA or other languages.

(1) Following are some of the words restricted to Vd ; *apas-* 'work' *ama-*'strength', *īrma-* 'foreleg', *kraviṣ-* 'raw-flesh', *gātu-* 'path' *gnā-* 'goddess', *toka-* 'offspring', *mīḍha-* 'reward'. *vāja-* 'booty', *sunītha-*, *sumṛḷika-* etc.

(2) The following words are found in Cl and not in the Vedic e.g. *uḍu-* 'star' <Pkt *uḍu-vai* <Skt *ṛtupati* 'moon', *bhaṭṭa*, *bhaṭṭāraka* 'master' <*bhartā* etc., *khelati* 'plays' <*krīḍati*, *lipi* 'script' (<OP dipi), *anala* <Tamil *aṉal* 'fire', *mīna* 'fish' < Tamil *mīṉ* etc.

21. The Substages of Vedic & Classical Sanskrit

The broad outlines of difference of Vd and Cl Skt has been given in 20. But the actual development of OIA may be drawn under several stages. The six stages as described in 18 show the linguistic development in the following manner.

(A) Early Saṃhitā stage (=RV 1st to 9th maṇḍalas).

(1) *e, o, ai, au* were probably *ai, au, āi, āu* as in IIr. *jyeṣṭha, śreṣṭha* and *tredhā* are often to be read trisyllabically

as *jyaïṣṭha, śraïṣṭha* & *traïdhā;* Gen *goḥ* as *gaüḥ* (disyllabically), Abl *dyoḥ* as *dyauḥ* (RV I. 71.8); Acc *gām* as *gāüm* (disyllabic).

(2) Intervocal *ḍ, ḍh* > *ḷ, ḷh*.

(3) *y and v* are often to be read as *iy and uv*.

(4) IIr *r* remained as *r* to a great extent.

(5) Cerebralization operated even in external sandhi.

(6) Sandhi retained its historical character (vide 20 A6 for details).

(7) Accent has a significant role (20B).

(8) Root nouns were more frequent in this stage.

(9) Some formatives (vide 20C) were restricted to this stage.

(10) Dual number was restricted to natural pairs (vide **20 E 1**).

(11) Neuter sg of *-a* stems with NIL ending is significantly attested in a few instances e.g. *rāṣṭreha* = *rāṣṭra(m)* + *iha*, *durgrahaitat* = *durgraha(m)* + *etat*, cp also *asmāka(m) and yuṣmāka(m)* (vide **390 a**).

(12) Often neut sg is used for pl e.g. *viśvāni vasu*, *ūdhar divyāni* etc.

(13) The following declensional forms were restricted to this stage : Inst sg *devā;* Gen sg *avyaḥ, paśvaḥ;* Gen pl *devām, narām, paśvām;* Loc sg *viṣṇavi, rājan, gaurī, sarasī;* Nom sg *veḥ;* Neut pl *asthāni, akṣāṇi, sakthāni;* Inst *asthabhiḥ*, Dat *asthabhyaḥ*.

(14) The following declensional forms were more frequent in this stage than the late Saṃhitā period e.g. *devāsaḥ* (*devāḥ* and *devāsaḥ* in early Saṃhitā (=ES) 2:1, late Saṃhitā (=LS) : 24-1, later 1:nil), *yugā* (*yugāni* & *yugā* in ES 2:3, LS 3:2, later 1:nil), *devebhiḥ* (*devaiḥ* & *devebhiḥ* in ES 1:1, LS 5:1, later 1:nil), *devā* (*devau* : *devā* in ES 1:7, LS 2:1, later 1:nil).

(15) The following declensional forms are not attested in this stage. Neut sg Dat *vāriṇe*, Abl-Gen *vāriṇaḥ*, Loc *vāriṇi;* Nom sg *rāḥ*, *nā*.

(16) *vṛkī and devī* type are quite distinct.

(17) Of the cardinal numerals *aṣṭa* does not occur in ES and *ṣaṇṇām* does not occur in ES or LS. (But inflected *aṣṭabhiḥ* occurs vide 565 a).

(18) Of the ordinal numerals ES specially shows *pratama, dvita, tṛta, saptatha.*

(19) In 1st person dual the stem *āva–* is not found.

(20) The forms of Personal Pronouns, restricted to this stage, are Loc sg *tve*, Gen pl *asmāka* & *yuṣmāka*.

(21) The following demonstrative and indefinite pronouns are restricted to this stage e.g. *ava, tva, sama, sima.* The pronouns *sya, tya* & *eṣya, etya* are more frequent in this stage than the late Saṃhitā period.

(22) Interrogative Neut sg *kat* is restricted to this stage.

(23) The different tenses retain their original IE significance to a great extent and show modal variations in all the five moods including injunctive and subjunctive.

(24) The augment is optional.

(25) Some of the following personal endings were restricted to this stage whereas the rest were used more frequently in this stage than the late Saṃhitā period :

1st pl *–masi* (*mas:masi* ES 1:5, LS 4:3, later 1:nil), 2nd pl primary *–thana (tha:thana* ES 6:1, later 1:nil), 2nd pl secondary *tana (ta:tana* ES 4:1, later 1:nil), 2nd pl middle secondary *dhva* (once in ES). Most of the –r endings (vide 23H (3)) are found in this and the late Saṃhitā stage.

(26) The conditional has only one occurrence in ES (*abhariṣyat* RV II. 30.2).

(27) Future is mostly expressed by subjunctive and present and the *–sya* future is formed by only 15 roots.

(28) The periphrastic perfect & the periphrastic future have not started as yet.

(29) The gerundive in *–āyya* and *–tva* are restricted to this stage whereas *–enya* is found in this and LS. *–tavya, –anīya* have not yet started to be used.

(30) Gerund in *–tvī and –tvāya* are practically restricted to this stage with only rare occurrence later (*–tvī* not in LS, rare in Brāhmaṇas; *-tvāya* twice in LS, 12 times in Br). *-ya* and *–tya* mostly occur as *–yā and –tyā* which are more original.

(31) Dative infinitive is much more frequent than Acc infinitive (ES 12:1, LS 3:1, later 0:1). Several other types of infinitives are quite frequent in this stage, which are lost later.

(32) The desiderative is always formed with *–sa* and never with *–iṣa* at this stage.

(33) The following conjunctive and adverbial particles are specically used in this stage : *adha* (occurs only in ES and replaced by *atha* in LS and later), *aha* (ES & LS), *it* (ES mostly, less frequent in LS, much less in Br, lost later), *īm* (ES only), *tu* (ES emphatic, LS emphatic+adversative, later adversative), *na* (comparative & negative in ES & LS, only negative in Br and later).

(34) *khalu* does not occur in ES (only once in LS i.e., RV X.34.14).

(B) Late Saṃhitā stage(=RV 10th maṇḍala, AV, original mantra protions of SV & YV).

(1) *e, o, ai, au* have lost their IIr pronunciation as *ai, au, āi, āu.*

(2) *r* has become *l* in many cases.

(3) Sandhi has started to obscure its historical character.

(4) Root nouns are gradually being replaced by extended forms.

(5) Some formatives (vide **20 C**) are no longer in use.

(6) Neut sg of -*a* stems with NIL ending (A 11) and use of Neut sg for pl (A 12) is no more in vogue.

(6a) A peculiar acc pl form *mātṝn* beside regular *mātṝḥ* is attested in this stage (RV X.35.2).

(7) The declensional forms Inst *devā*, Gen *avyaḥ* etc. (A13) are no more in use.

(8) The following declensional forms are comparatively less used than in ES e.g. dual *devā*, pl *devāsaḥ*, *yugā*, *devebhiḥ* (vide A 14 for proportionate frequency).

(9) The numeral *aṣṭa*, *pañcama* occur first at this stage (although inflected form *aṣṭabhiḥ* occurs earlier, vide A-17 above).

(10) *āva* does not appear as 1st person dual stem even at this stage. *yuṣmāḥ* Acc pl occurs only here (VS). The forms Gen *asmāka*, *yuṣmāka* & Dat-Loc pl *asme*, *yuṣme* & Loc sg *tve* have already disappeared.

(11) The demonstrative *aya* & *tva*, indefinite *sama* & *sima* and interrogative Neut sg form *kat* are lost. *sya*, *tya and eṣya*, *etya* are less frequent.

(12) The personal endings -*tana* & -*dhva* are no more attested. Even -*masi* and -*thana* are less frequent than ES (vide A25 for proportionate frequency). The endings *rām* & *ratām* appear only at this stage (in AV).

(13) The conditional which has only one occurrence in ES is not attested in LS.

(14) The future in -*sya*- is more in use and expressed by about 50 or 60 roots.

(15) The periphrastic future starts with only one occurrence here e.g. TS & VS *anvāgantā yajñapatir vo atra*.

(16) The periphrastic perfect has not yet started.

(17) Gerundive in -*āyya* & -*tva* are lost. -*enya* is lost after this stage. -*tavya* & -*anīya* appear for the first time.

(18) Gerund in -*tvī* is not attested though appears quite

commonly in ES and rarely in Pr and the Gerund in *-tvāya* which is common in ES occurs twice here and 12 times in Br. Gerund in *-tvā*, *-yă* & *tyă* are more frequent.

(19) The Dat infinitive is three times more frequent than Acc inf though in ES it was 21 times more frequent.

(20) The desiderative is formed practically with *sa* in this stage also but *iṣa* has started with one example in each AV, VS & TS.

(21) The participle *adha* and *īm* are no more used; *it* is less frequent; *aha* continues, *tu* develops an adversative sense but continues as emphatic also; *na* is comparative & negative as in ES.

(22) Use of *khalu* starts and it occurs once only (RV X, 34. 14).

(C) **Vedic prose stage** (=prose portions of yajurveda and Brāhmaṇas).

The language of Brāhmaṇas and that of the prose portions of VS, TS etc. come closer to Cl and have often been considered by some scholars as identical with the latter. But actually the language is more Vd than Cl. Though a language gap may be conjectured between early Saṃhitā period and the Vd prose stage as several words of ES have become obscure and several grammatical categories have become obsolete, still the language presents the last phase of the Vd type.

(1) Inst pl *devaiḥ* almost fully replaces *devebhiḥ*, which is very rare but, not fully obsolete.

(2) Neut pl forms like *bhartṝṇi*, *janayitṝṇi* etc. appear for the first time in the Brāhmaṇas.

(3) A peculiar form is *tvat-pitāraḥ* (TS) for *-pitaraḥ*.

(4) The numerals *ṣaṇṇām*, *ṣaṇṇavati*, occur in this stage. Ordinal *pañcatha*, *catustriṃśa*, *dvāpañcāśa*, *ekaṣaṣṭa*, *sahasratama* etc. first occur in the Brāhmaṇas.

(5) *āva* appears as first person dual stem. Nom *āvam*, Acc *āvām* & Gen *āvayoḥ* first occur in ŚB; and Abl *āvat* in TS and *āvābhyām* in Kāṭhaka.

(6) The periphrastic future which shows only one occurrence in late Saṃhitā period is much more common here.

(7) Periphrastic perfect first appears here.

(8) The conditional which has only one occurrence in ES and no occurrence in LS is more common in the Brāhmaṇas. In ŚB it occurs more than 50 times.

(9) Future in *-ṣya* is more common, but is restricted to less than 200 roots.

(10) The gerund in *-tvī* which is almost restricted to ES (and not found in LS) has few occurrences here also. *-tvāya* which is frequent in ES and rare in LS (twice in AV) occurs more frequently here than LS (about 12 times).

(11) The gerundives *-tavya* and *-anīya* which have started in the LS stage (with two occrrences of each in AV) occur more frequently here.

(12) The rich varieties of infinitives are gradually dying out, but some examples of different types are still attested. The acc inf is twice as frequent as the dat inf which was more frequent in ES & LS. The inf in *-tum* which was less common earlier is quite common here.

(13) The particle *-it* is very rare, tu is used mostly in adversative sense and na is no more used as a comparative particle but only as a negative particle.

The particle khalu is much more common.

(14) The particle *vā́vá*, peculiarly with double accent, is found only in this stage.

(D) The Epic Stage (or Early Classical Stage)

This stage includes the language of the two great epics Rāmāyaṇa and Mahābhārata and of the later purāṇas which followed their norm. That Rāmāyaṇa and Mahābhārata depict the natural flow of the language is true beyond controversy. Some epic tendencies which are lost in Cl are preserved in MIA.

(1) The augmentless forms occur very rarely.

(2) The primary and secondary endings somtimes overlap.

(3) Although the future in *-sya* is much more in use, the present also sometimes serves the purpose of future as in Vedic.

(4) The modal forms of future which appeared in the Brāhmaṇas (with only one earlier example in RV) are more in use at this stage e.g. optative Mahābhārata *dhakṣyet, maṃsyeran*; Rāmāyaṇa *drakṣyeta;* imperative Harivaṃśa *patayantu* etc.

(5) The passive often takes the active ending as in MIA (& Iranian) and as opposed to Standard Classical Sanskrit,

(6) In gerund *-ya* & *-tvā* are interchangeable like MIA, against the normal use in Vd & Cl, where *-ya* is used with a compounded verb only.

(7) The Vd causative middle participle *-māna* is replaced by *-āna.*

(8) Special Vd declensional & conjugational forms are practically lost.

(9) In other respects it hardly differs from Cl Skt as this presents the earliest stage of Cl Skt.

(E) **Classical Sanskrit :**

(1) Many forms with *-iy* & *-uv* have become *-y and -v* in Cl Skt.

(2) Dentals are not cerebralized in external sandhi.

(3) The sound *l* has sufficiently developed in several words which had originally *r* and there are doublets with *r* and *l* with semantic variations.

(4) In sandhi *a* was never retained after *o.*

(5) Acc pl *ān, īn, ūu* did not have any special treatment before a vowel in sandhi, and the historical character of this sandhi which was retained in Vd was lost here.

(6) *n+t* & *n+c* often > *ns+t* *nś+c* in cases where it was not historically justified.

(7) The role of accent was lost. The accent which was musical or pitch in Vd was probably replaced by a stress in Cl.

(8) Compounds have no limit of components. Governing compounds are not productive. Bahuvrīhi compounds often need a pleonastic *-ka*.

(9) The Dual number was used to express anything in two without any restriction.

(10) Vd alternative declensional forms were lost (vide 20 E2).

(11) New declensional forms developed which were unknown to Vd (vide 20E 3).

(12) *devī and vṛkī* type have merged into one practically.

(13) Often heteroclitic stems have been substituted by generalization of the stems in Nom (vide 20 E 6).

(14) The personal pronouns show less varieties of forms than Vd.

(15) Several emonstrative & indefinite pronouns are no more attested (Vide 20 F 2).

(16) The verb has clearly developed tense with temporal significance. Perfect no more expresses completed action but signifies remote past.

(17) The modal system is curtailed & the present only shows three moods : indicative, imperative & optative.

(18) The injunctive is sometimes in use but only with the prohibitive particle *mā*,

(19) Augment is a must.

(20) Vd perfect forms like *vavāca* & *vavāsa* are lost in favour of forms like *uvāca* & *uvāsa*.

(21) The periphrastic perfect & the periphrastic future are established but not very much popular.

(22) Future in *-sya-* can be formed with any root in Cl.

(23) The condional is no more used.

(24) The benedictive or precative is less common.

(25) In gerundive *-tavya*, *-anīya* & *-ya* are retained and others are lost.

(26) The inf in *-tum* is the only infinitive in Cl.

(27) The upasargas must be prefixed to verbs.

(28) *-tu* is used as adversative only & *-na* as negative particle only and the other alternative Vd uses are lost.

(29) Several Vd words are lost and new words appear (vide 20 A).

(30) The passive participle *-ta* and the possessive past participle are used in the sense of finite verb with past implication.

(F) Late Classical

The language was more or less standardized by the powerful Pāṇinian grammar and it is normally accepted that Skt remained fixed after Pāṇini through out the last 2500 years and such an impossible phenomenon was possible because Skt remained as an artificial language & the natural flow of the language occurred in MIA & NIA. This is partly true. But inspite of the fact that the anguage followed Pāṇini's grammar quite strictly certain advancements towards simplification of the language occurred. Certain usages which were although grammatically permissible, but rarer in use became more and more established in the later phase of the language. MIA gradually influenced Skt more & more in phonology, morphology & vocabulary.

(1) Skt $\underset{\circ}{r}$ gradually developed the prākṛtic pronunciation of *ri*, *ru* & *ra*, regionally which is the current one in India and the syllabic pronuciation is no where attested.

(2) Use of compounds was preferred mainly to lessen the complicated burden of declension.

(3) *-a* declention gradually became more popular and stems in other vowels & consonants are sometimes extended by respectively pleonastic *-ka* & *-a*.

(4) The conjugational complications were partly avoided by (a) large scale use of passive constructions, (b) use of present with particle *-sma* to indicate past e. g. *gacchatisma* for *agacchat*.

(5) The following periphrastic uses are notable e. g. *gacchannasti, gato'smi, gatavānasmi, gantumarhati* etc.

(6) Compounds were formed with infinitives as the first component e.g. *gantukāma-* = *gantumkāma-*.

(7) Use of comparative *-tara* with the verb (which is only once found in Rāmāyaṇa) became quite normal e.g. *jayatitarām*.

(8) Many words from MIA and even sometimes from NIA are incorporated into the vocabulary.

PART TWO
Phonology—Vowels

CHAPTER IV

Indo-European, Indo-Iranian & Sanskrit Sounds

22. Indo-European, Indo-Iranian and Sanskrit Sound-system

(1) **IE Sound-system** (Reconstructed)

A. Vowels.

(i) Primary vowels

(a) short *a*, *e*, *o*

(b) long *ā*, *ē*, *ō*

(c) reduced vowel *ə* (schwa)

(ii) Secondary vowels

(a) syllabic-short *i*, *u*, *r̥*, *l̥*, *m̥*, *n̥*

(b) syllabic-long *ī*, *ū*, *r̥̄*, *l̥̄*, *m̥̄*, *n̥̄*

(c) non-syllabic *y*, *w*, *r*, *l*, *m*, *n* (=B iv)

(d) syllabic-cum-nonsyllabic *iy*, *uw*, *r̥r*, *l̥l*, *m̥m*, *n̥n*

(iii) Diphthongs

(a) short *ai*, *ei*, *oi*; *au*, *eu*, *ou*

(b) long *āi*, *ēi*, *ōi*; *āu*, *ēu*, *ōu*

B. Consonants

(i) Gutturals

(a) Palatals *k̂*, *k̂h*, *ĝ*, *ĝh*, (*n̂*)

(b) Velars *q*, *qh*, *g*, *gh*, (*η*)

(e) Labio-velars q^w, q^wh, g^w, g^wh, ($\eta = \eta^w$)

(ii) Dentals *t*, *th*, *d*, *dh*, (*n*)

(iii) Labials *p*, *ph*, *b*, *bh*, (*m*)

(iv) Semi-vowels, liquids and nasals
y, w, r, l, m, n, n̂, η (η^w)

(v) Spirants *s, z, θ, δ*

2. IIr Sound-system (Reconstructed)

A. Vowels

(i) Simple vowels *a, ā, i, ī, u, ū, r̥, r̥̄*

(ii) Diphthongs *ai, au, āi, āu*

B. Consonants

(i) Velars *k, kh, g, gh, η*

(ii) Palatals *c, ch, j, jh, ñ*

(iii) Dentals *t, th, d, dh, n*

(iv) Labials *p, ph, d, dh, m*

(v) Semi-vowels & liquid *y, v, r*

(vi) Spirants *s, š, ṣ̌, šh; z, ž, ẓ̌, žh.*

(3) Skt Sound-system

A. Vowels

(i) Simple Vowels *a, ā, i, ī, u, ū, r̥, r̥̄, l̥*

(ii) Diphthongs

(a) monophthongised *e, o*

(b) retained diphthongs *ai, au*

B. Consonants

(i) Velars *k, kh, g, gh, ṅ*

(ii) Palatals *c, ch, j, jh, ñ*

(iii) Cerebrals *ṭ, ṭh, ḍ, ḍh, ṇ*

(iv) Dentats *t, th, d, dh, n*

(v) Labials *p, ph, b, bh, m*

(vi) Semi-vowels & liquids *y, v, r, l*

(vii) Spirants *ś, ṣ, s*

(viii) Aspirations *ḥ, h*

(ix) Nasalization *ṃ*

23. Development of IE sounds in Skt

The following chart illustrates the developmement of IE sounds in Skt through IIr. She development in Avestan, Greek etc. is also presented to facilitate comparative study.

IE	IIr	Skt	Av	Gk	Latin	Gothic
a	*a*	*a*	*a*	*a*	*a*	*a*
e	*a*	*a*	*a*	*e*	*e, i*	*i, aí*
o	*a*	*a*	*a*	*o*	*o, u*	*a*
ā	*ā*	*ā*	*ā*	*ā,(ē)*	*ā*	*ō*
ē	*ā*	*ā*	*ā*	*ē*	*ē*	*ē*
ō	*ā*	*ā*	*ā*	*ē*	*ē*	*ō*
ə	*i*	*i*	*i*	*a*	*a*	*a*
i	*i*	*i*	*i*	*i*	*i, e*	*i, aí*
u	*u*	*u*	*u*	*u*	*u*	*u, aú*
r̥	*r̥*	*r̥*	*ərə*	*ar, ra*	*or*	*ur*
l̥	*r̥*	*r̥*	*ərə*	*al, la*	*ol*	*ul*
m̥	*a*	*a*	*a*	*a*	*em*	*um*
n̥	*a*	*a*	*a*	*a*	*en*	*un*
ī	*ī*	*ī*	*ī*	*ī*	*ī*	*ei(=ī)*
ū	*ū*	ū	*ū*	*ū*	*ū*	*ū*
r̥̄	*r̥̄*	*īr, ūr*	*ar*	*rō, or*	*rā, ar*	*ur*
l̥̄	*r̥̄*	*īr, ūr*	*ar*	*lō, ol*	*lā, al*	*ul*
m̥̄	*ā*	*ā*	*ā*	*ā,ē,mā, mē*	*mā*	*um*
n̥̄	*ā*	*ā*	*ā*	*ā,ē,nā,nē*	*nā*	*un*
ai,ei,oi	*ai*	*e*	*ē,ae,ōi*	*ai,ēi,oi,*	*ai/ae, ei/ī, oi/ū*	*ái,ei(=ī),ái*
au,eu,ou	*au*	*o*	*ō, ao,ə̄u*	*au,eu,ou*	*au, ou/ū, ou/ū*	*áu, iu, áu*
āi,ēi,ōi	*āi*	*ai*	*āi*	*ăi,ĕi, ŏi*		
āu,ēu,ōu	*āu*	*au*	*āu*	*ău,ĕu,ŏu*		

IE	IIr	Skt	Av	Gk	Latin	Gothic
k̂	*š*	*ś*	*s*	*k*	*c*	*h*
k̂h	*šh*	*ch*	*s*	*kh*	*h*	*h*
ĝ	*ž*	*j*	*z*	*g*	*g*	*k*
ĝh	*žh*	*jh, h*	z	*kh*	*h*	*g*
n̂	*ñ*	*ñ, ṃ*	*n*	*n,η*	*n*	*n/g(=η)*
q	*k*	*k*	*k*	*k*	*c*	*h*
qh	*kh*	*kh*	χ	*kh*	*h*	*h*
g	*g*	*g*	*g*	*g*	*g*	*k*
gh	*gh*	*gh*	*g*	*kh*	*h*	*g*
η	*η*	*ṅ, ñ*	*η*	*n,η*	*n*	*n/g(=η)*
q^w	*k*	*k*	*k*	*p,(t,k)*	*qu*	*ƕ*
q^wh	kh	*kh*	χ	*ph,(th, kh)*	*f, u, gu*	*ƕ*
g^w	*g*	*g*	*g*	*b,(d,g)*	*v, gu*	*q*
g^wh	*gh*	*gh*	*g*	*ph(th, kh)*	*f, v, gu*	*w, g*
t	*t*	*t*	*t*	*t*	*t*	þ
th	*th*	*th*	*θ*	*th*	*f, b, d*	þ
d	*d*	*d*	*d*	*d*	*d*	*t*
dh	*dh*	*dh, h*	*d*	*th*	*f, b, d*	*đ*
n	*n*	*n*	*n*	*n*	*n*	*n*
p	*p*	*p*	*p*	*p*	*p*	*f*
ph	*ph*	*ph*	*f*	*ph*	*f, b*	*f*
b	*b*	*b*	*b*	*b*	*b*	*p*
bh	*bh*	*bh, h*	*b*	*ph*	*f, b*	*b*
m	*m*	*m*	*m*	*m*	*m*	*m*
y	*y*	*y*	*y*	*h, z*	*i(=j)*	*j*
w	*v*	*v*	*v*	*w*, LOST, *h*	*v*	*w*
r	*r*	*r, l*	*r*	*r*	*r*	*r*
l	*r*	*r, l*	*r*	*l*	*l*	*l*
s	*s*	*s*	*h, ηh*	*h*	*s*	*s*
z	*z*	LOST	*z*	*z*	*r*/LOST	*z*
θ	*s*	*s*	*s*	*t*	*s*	*s*
δ	*z,s*	*s*	*s*	*th*	LOST	–

23a. Development of some special sound-combinations in IIr and Skt

IE	IIr	Skt	Av	Gk < IE
q^we/qe	*ca*	*ca*	*ca*	*te < q^we*
q^whe/qhe	*cha*	*cha*	*ca/sa*	*the < q^whe*
g^we/ge	*ja*	*ja*	*ja*	*de < g^we*
g^whe/ghe	*jha*	*ha*	*ja*	*the < g^whe*
ĝd	*ẓ̌d*	*(ẓḍ/)ḍ*	*žd*	*gd*
k̂t	*ṣ̌t*	*ṣṭ*	*št*	*kt*
ĝdh	*ẓ̌dh*	*(ẓḍh/)ḍh*	*žd*	
iz	*iž*	*iẓ > ī/ir*	*iž*	

CHAPTER V

Primary Vowels

24. IE Primary vowels

The simple vowels are classified as primary and secondary. They differ chiefly in the fact that the primary vowels have ablaut variation (60), whereas the secondary vowels are characterized with a positional variation (32). In a certain type of ablaut variation (i. e. in the *zero* grade) a primary vowel may be fully lost, A secondary vowel on the other hand is never lost. This may lose its syllabicity and become a consonant in certain positions, whereas a primary vowel can never change into a consonant.

The primary vowels are : short *a*, *e*, *o*; long *ā*, *ē*, *ō*; reduced *ə* (schwa). Schwa is found in the weak (reduced) grade (60) of certain roots, which present the long vowels *ā*, *ē*, *ō* in their strong grade forms. A second schwa is also sometimes reconstructed, by some, which is considered to be a reduced grade vowel of roots, which have short *a*, *e*, *o* in the strong grade. But the evidence for such an asuumption is insufficient (Vide 31A).

IE *a*, *e*, *o* have become *a* in IIr and consequently in Skt, but Gk has retained the distinction of these vowels. Hence Gk cognates are highly essential for reconstruction of the original IE vowels. Similaraly *ā*, *ē*, *ō* have become *ā* in IIr & Skt. Gk has retained IE *ē*, *ō* intact, but IE *ā* has become *ē* in Attic-Ionic, the standard Gk dialect. But fortunately, however, Doric has retained IE *ā* and therefore Doric evidence is very valuable for the reconstruction of IE *ā*. IE *ə* has become *i* in IIr, and *a* in almost all the other IE languages.

24a. IE *ĕ* can sometimes be inferred from IIr evidence also. When it followed an IE velar or labio-velar, the velar or labio-velar was palatalized in IIr in such cases (67).

25. IE *a* > IIr *a* > Skt *a* (also *a* in most of the IE languages) e.g.

IE *apo* > IIr *apa* > Skt *apa*, Av & OP *apa*, cp Gk *apó*, Lat *ab*, Goth *af*, Ht *apa*,

IE *aĝros* > IIr *ažras* > Skt *ajraḥ* cp Gk *agrós*, Lat *ager*, Goth *akrs*.

IE *aĝō* > IIr *ažā(mi)* > Skt *ajāmi*, Av *azāmi* cp Gk *ágō*, Lat *agō*, Arm *acem*, OIrish *agim*.

IE *mad–* > IIr *mad–* > Skt *mad–*, Av *mad–*, cp Gk *madáō*, Lat *madeō*.

IE *yaĝnos* > IIr *yažnas* > Skt *yajñaḥ*, Av *yasnō*, cp Gk *hagnós*.

IE *nas–* > IIr *nas–* > Skt *nas–*, OHG *nas-a*, OCS *nosŭ* cp Lat *nāres* (< IE *nās–*)

IE *ĝhansos* > IIr *žhansas* > Skt *haṃsaḥ*, cp Gk (Dor) *khān* < IE *ĝhāns*

IE *swad* > IIr *svad* > Skt *svad–*, cp Gk *hădus*/*hēdus* (28)

26. IE *e* > IIr *a* > Skt *a*, Av & OP *a*, Gk *e* (The preceding IE velar or labio-velar was palatalized in IIr when IE *e* followed it 24a) e.g.

IE *esti* > IIr *asti* > Skt *asti*, Av *asti*, OP *astiy*, cp Gk *estí*, Lat *est*, Lith *esti*, OCS *jestĭ*, Ht *estsi*, Goth *ist*.

IE *nebhos* > IIr *nabhas* > Skt *nabhaḥ*, cp Gk *néphos*, Ht *nebes* OCS *nebo*.

IE q^w*e* > IIr *ca* > Skt *ca*, Av *ca*, OP *cā̆* cp Gk *te*, Lat *que*.

IE *peŋ*q^w*e* > IIr *pañca* > Skt *pañca*, Av *panca*, cp Gk *pénte*, Lat *quīnque*, Goth *fimf*, Arm *hing*.

IE *peri* > IIr *pari* > Skt *pari*, Av *pairi*, OP *pariy*, cp Gk *péri*.

IE *ĝenos* > IIr *žanas* > Skt *janaḥ*, Av *zanō*, OP *dana*, *zana*, cp Gk *génos*, Lat *genus*.

27. IE *o* > IIr *a* > Skt *a*, Av & OP *a*, Gk *o*

IE *owis* > IIr *aviṣ* > Skt *aviḥ*, cp Gk *oîs*, Lat *ovis*, OHG *awi*.

IE *oḱtō(u)* > IIr *aštā(u)* > Skt *aṣṭa*, *aṣṭā*, *aṣṭau* Av *ašta* cp Gk *oktṓ*, Lat *octō*, Goth *ahtáu*.

IE *osthi* > IIr *asthi* > Skt *asthi* cp Av *ast-*, Gk *ostéon* (< IE *ostheyom*), Ht *hastai* (< IE *osthēi*).

IE *domos* > IIr *damas* > Skt *dama-*, Av *dam-*, Gk *dómos* Lat *domus*, OCS *domŭ*.

IE *potis* > IIr *patiṣ* > Skt *patiḥ*, Av *paitiš*, cp Gk *pósis*, Lat *potis*, Goth *-faþs*, Lith *pàts*, Tokh (A) *pats*.

IE *pro* > IIr *pra* > Skt *pra*, Av *fra*, cp Gk *pró* Goth *fra-*, Lith *pra-*, OCS *pro-*, Ht *pra* (*p*^{a}*ra*).

IE *apo* > IIr *apa* > Skt *apa*, Gk *apó* etc. (25)

27a. According to Brugmann IE *o* has become *ā* in IIr (and Skt) in open syllables. But the evidence cited in favour of this theory may be equally explained otherwise e. g. Skt *jānu* : Gk *gónu* (< IE *ĝonu*); Skt *jānu* instead of being derived from IE *ĝonu*, may preferably be derived from IE *ĝōnu or ĝēnu*, cp Gk *gōnía*. On the other hand Skt *patiḥ* (< IE *potis*) etc. contradict Brugmann's assumption. In a few instances however IIr *ā* (: IE *o*) is of analogical origin (618) e.g. Skt *bharāmaḥ* (< IE *bheromes*) has *ā* (for **a*) after Skt *bharāmi* (< IE *bherō*).

28. IE *ā* > IIr *ā* > Skt *ā*, Av & OP *ā*. (also *ā* in Gk (Dor), Lat & OIrish etc).

IE *mātēr* > IIr *mātā* > Skt *mātā*, Av *mātă*, Gk (Dor) *mấtēr*, (Att-Ion) *mḗtēr*, Lat *māter*, OIrish *māthir*.

IE *bhāĝhus* > IIr *bhāžhuṣ* > Skt *bāhuḥ*, Av *bāzuš*, cp Gk (Dor) *pâkhus* (Att-Ion) *pêkhus*.

IE *nāwm̥m* > IIr *nāvam* > Skt *nāvam* cp Gk *nêa*, Lat *nāvem*.

IE *sthāno-* > IIr *sthāna-* > Skt *sthāna-*, Av & OP *stāna-*, cp Gk (Dor) *hístāmi*, (Att-Ion) *hístēmi*, Lat *stāre*, Ht *titami*.

IE *sā* > IIr *sā* > Skt *sā*, Av *hā*, cp Gk (Dor) *hā*, (Att–Ion) *hē*, Goth *sō*

IE *bhrātēr* > IIr *bhrātā* > Skt *bhrātā*, Av & OP *brātā*, Gk *phrắtēr*, Lat *frāter*, Goth *brōþar*.

IE *swādus* > IIr *svāduṣ̌* > Skt *svāduḥ*, Gk (Dor) *hắdus*, (Att–Ion) *hḗdus*, Lat *suāvis*.

IE *g^w hrāno–* > IIr *ghrāna–* > Skt *ghrāṇa–*, cp Lat *fragrāre* (< IE *g^w hrā-g^w hrā–*), Gk *ósphrā* 'smell', *osphrâtai*, *osphrḗsomai* (< IE *ots–g^w hrā–*; IE *ots–* is an weak grade form < IE *odos* cp Lat *odor*).

29. IE *ē* > IIr *ā* > Skt ā, Av & OP *ā*, Gk & Lat *ē* etc.

(A preceding IE velar or labio-velar was palatalized in IIr when *ē* followed (24a).

IE *ēstai* > IIr *āstai* > Skt *āste*, cp Av *ā̊ŋhənte*, cp Gk *hḗstai*, Ht *estsi*.

IE *mē* > IIr *mā* > Skt *mā*, Av & OP *mā*, cp Gk *mḗ*, Arm *mi*, Alb *mo*.

IE *mātēr* > IIr *mātā* > Skt *mātā*, Gk (Dor) *mắtēr* (28).

IE *bhrātēr* > IIr *bhrātā* > Skt *bhrātā* etc (28).

IE *rēĝ* · > IIr *rāẑ–* > Skt *rāj–*, *rājan–*; cp gAv *rāzan–*, cp Lat *rēx*, *rēgis*, OIrish *rī*.

IE *dhidhēmi* | *dhedhēmi* > IIr *dhidhāmi* | *dhadhāmi* > Skt *dadhāmi*, Av *dadąmi*, cp Gk *títhēmi*, Goht *gadēþs*, Ht *dehi*, etc.

30. IE *ō* > IIr *ā* > Skt *ā*, Av & OP *ā*, Gk & Lat *ō*.

IE *ōk̂us* > IIr *āšuṣ̌* > Skt *āśuḥ*, Av *āsuš*, cp Gk *ōkús*, Lat *ōcior*.

IE *ok̂tō* >IIr *aštā* > Skt *aṣṭā*, Gk *oktṓ*, Lat *octō*.

IE *didōti*|*dedōti* > IIr *didāti*, *dadāti* > Skt *dadāti* (also **didāti* cp MIA *diṇṇa* < **did–na–*), Av *daδāiti*|*–diδāiti* cp Gk *dídōsi*.

IE *dōtōr* > IIr *dātā* > Skt *dātā*, Av *dātā*, cp Gk *dṓtōr*, Lat *datōr*.

IE *k̂wōn* > IIr *švā* > Skt *śvā*, Av *spā̊*, cp Gk *kúōn*, Arm *šun*.

IE *gʷowōm* > IIr *gavām* > Skt *gavām*, Av, *gavą̄*, cp Gk *boôn* Lat *bovom*.

30a. IE *ē* or *ō* connot be determined in some Skt words. e.g.

Skt *jānu* < IE *ĝēnu* or *ĝōnu* cp Ht & Lat *genu*, Gk *gónu*, *gōnia*,

Skt *pāt* < IE *pēts* or *pōts* cp Lat *pēs*, Gk *pṓs*

Skt *dāru* < IE *dōru* (or *dēru*) cp Gk *dóru*, Ht *daru*, Goth *triu* etc.

31. IE *ə* > IIr *i* > Skt *i*, Av & OP *i* but *a* in other IE languages.

IE *pətēr* > IIr *pitā* > Skt *pitā*, Av *pita*, OP *pitā* cp Gk *patḗr*, Lat *pater*, OIrish *athir*, Goth *fadar*

IE *sthətos* > IIr *sthitas* > Skt *sthitaḥ*, cp Gk *statós*, Lat *status*, Goth *staþs* (< IE *sthətis*).

IE *edəto* > IIr *adita* > Skt *adita*, cp Gk *dános* (< IE *dənos*), Lat *datus* (< IE *dətos*).

IE *qrewəs* > IIr *kraviṣ̌* > Skt *kraviḥ*, Av *χrvīš-(yant-)* cp Gk *kréas*.

IE *dhughətēr* > IIr *dhuǰhitā* > Skt *duhitā* cp Gk *thugátēr*.

IE *weqʷēsə* > IIr *vacāsi* > Skt *vacāṃsi*, Gk *épea* cp gAv *varəcāhī* (= Skt *varcāṃsi*).

IE *ebheromedhə* > IIr *abharāmadhi* > Skt *abharāmahi* cp gAv *varəmaidī*, cp Gk *epherómetha*.

IE *dhətos* > IIr *dhitas* > Skt *hitaḥ* cp Gk *thetós* (for **thatos*).

Gk often shows *e*, *o* for *a* (< IE *ə*) due to analogical influence of other forms. e.g. Gk *dotós* (< **datos* < IE *dətos*, cp Lat *datus*) has *-o-* due to influence of Gk *dídōmi*; Gk *thetós* (< **thatos* < IE *dhətos*) due to influence of *títhēmi*.

Skt often shows *ī* for *i* (< IE *ə*) in some words. e.g. *hīnaḥ* (< IE *ĝhənos*), *sphītaḥ* (< IE *sphətos*) beside *sphiraḥ* (< IE *sphəros*, cp OCS *sporŭ*, Lat *spatium* etc). In a few cases such *ī* may be out of *i+ə* or *ə+i*; e.g. Skt *pīna-* (cp *pyāyati*), *gīta-* (cp *gāyati*) etc.

But in several instances such *ī* is out of IE simple *ə*. Perhaps the positional variation of secondary vowels continued in IIr and Skt for some time even after IE *ə*>*i*. Thus Skt shows *rodīti* beside *roditi* (< IE *reudəti*); Skt *vr̥ṇīte* (< IE *wl̥nətai*) beside Gk *márnatai* (< IE *mr̥nətai*) etc.

31a. Reconstruction of Schwa Secundum

A second schwa or Schwa secundum is often reconstructed by some as a reduced (weak) grade vowel corresponding to IE *a, e, o* (in strong grade), just like schwa (primum) which is the reduced vowel corresponding to IE *ā, ē, ō* (in strong grade). Some even think of two or three such schwa secundums. An attempt for a consistent picture is made by Sturtevant (Vide Language XIX p, 293–312), where he propses that schwa secondum has become *a* in all IE languages. Normally assumption of schwa secundum is needed in some Latin forms showing *a* where strong grade vowel shows IE *e*. e.g. IE *q^w^etwŏres* > Skt *catvāraḥ*, Gk *téttores*, Goth *fidwōr* etc.; but Lat *quattuor* shows *a* instead of *ə*. This *a* therefore is derived by some scholars from schwa secundum. Similarly in several other cases such a of Latin *a* (which corresponds to IE *e* in other IE alnguages) is explained from schwa secundum. If schwa (*ə*) will be accepted as a reduced grade vowel of short primary vowels as well, such cases of Latin *a* will need no schwa secondum. Such cases in Latin are few and they may be analogical formations as well, as explained by Petersen (Vide language XIV p. 39). There are other peculiar cases which are also claimed to be explained by schwa secundum e.g. *i* in Gk *písures* is also considered to be out of schwa secundum, which makes the theory more complicated. *e* etc. of Gk *peptós*, Lat *coctus*, Skt **paktaḥ* are also considered to be out of schwa secundum, which is highly improbable, as in these cases, IE *e* is retained even in reduced grade (Vide CGSGH 17). Thus it is more reasonable to discard schwa secundum from IE phonology than to accept it (for a detailed discussion on this controversy vide Misra : New Lights on IE Comparative Grammar pp. 4–8).

CHAPTER VI

Secondary Vowels

32. IE Secondary Vowels and the Positional Variation.

IE had six secondary vowels : *i, u, r̥, l̥, m̥, n̥*. Each of them had four positional variants, depending upon the preceding and the following sounds. The secondary vowels with their positional variants are :

(a) short, syllabic : *i, u, r̥, l̥, m̥, n̥*
(b) long, syllabic : *ī, ū, r̥̄, l̥̄, m̥̄, n̥̄*
(c) non-syllabic : *y, w, r, l, m, n*
(d) syllabic-cum-non-syllabic : *iy, uw, r̥r, l̥l, m̥m, n̥n*.

The variation depended upon the following and preceding sounds in the following manner : (a) & (b) occurred before consonants and (c) & (d) before vowels. And (a) & (c) occurred after short (or light) syllables and (b) & (d) occurred after long (or heavy) syllables. In other words (a) : *i, u, r̥, l̥, m̥. n̥* occurred after short syllables and before consonants (b) : *ī, ū, r̥̄, l̥̄, m̥̄, n̥̄* occurred after long syllables and before consonants, (c) : *y, w r, l, m, n* occurred after short syllables and before vowels, (d) : *iy, uw, r̥r, l̥l, m̥m, n̥n* occurred after long syllables and before vowels.

That (a) & (b) occurred before vowels and (c) & (d) before consonants is more certain than the fact that (a) & (c) occurred after light syllables and (b) & (d) after heavy syllebles. This is because of two factors : firstly because the original picture has been considerably obscured in individual languages. Secondly because the long syllabic secondary vowels (*ī, ū, r̥̄, l̥̄, m̥̄, n̥̄*) are of two fold origin in IE : (i) they were positional variants of *i, u, r̥, l̥, m̥, n̥* when preceded by heavy syllables and followed by consonants (ii) they have resulted from a combination of *i, u, r̥, l̥, m̥, n̥*+*ə*.

Often it is impossible to ascertain at present, whether a particular long secondary vowel has originated due to contraction with a following *ə*. This is so because many IE roots were originally disyllabic, ending in a final long vowel, which in reduced grade had *ə* as the final vowel, which could further be lost in zero grade. Therefore a long secondary vowel may in such case originate by contraction with *ə* in reduced grade and by positional variation in zero grade. To illustrate for example *n̥̄* in IE *ĝn̥̄* (cp IE *ĝn̥̄tos* > Skt *jātaḥ*, Lat *gnātus*) may be a positional variant of *n̥* (as in IE *ĝn̥*, cp Skt *aja* < IE *n̥ĝn̥–*, *dvija–* < IE *dwiĝn̥–* etc.) or may be due to a contraction of *n̥*+*ə* (i. e. *ĝn̥*+*ə*; cp IE *ĝenətēr* in Skt *janitā* and Gk *genetḗr* <**genatēr*). Similar may be the case with IE *gʷhn̥̄tos* (Skt *ghātaḥ*, Gk (Dor) *thnātós*, (Att-Ion) *thnētós* beside IE *gʷhn̥tos* (Skt *hataḥ* & Gk *phatós*), and IE *gʷhn̥nətos* (Gk *thánatos*); similar is also IE *dm̥̄tos* (Skt *dāntaḥ*, Gk (Dor) *dmātós*, (Att-Ion) *dmētós*), beside IE *dm̥mətos* (Gk *adámatos*); so also IE *k̂m̥̄tos* (Skt *śāntaḥ*, Gk *kmētós*) beside IE *k̂m̥mətos* (Gk *kámatos*); so also IE *sphr̥̄ĝo–* (Skt *vi–sphūrja–thu–*) beside IE *sphr̥rəĝo–* (cp Gk *spháragos*). But in some cases contraction is clear, where *ə* is a suffix; e.g. Skt (Vd) *trī* (<IE *trī*<*tri*+*ə*) beside Gk *tría* (< IE *triyə*).

IE *i*, *u*, *r̥*, *l̥*, *m̥*, *n̥*+*ə* also had two different developments in IE. They have become *ī*, *ū*, *r̥̄*, *l̥̄*, *m̥̄*, *n̥̄* if the preceding syllable was light and *iyə*, *uwə*, *r̥rə*, *l̥lə*, *m̥mə*, *n̥nə* if the preceding syllable was heavy. But the individual languages have generalized particular forms and even if both types of forms are attested in a particular language, the IE situation is not maintained any further. That is why parallel forms like *trī* : *triyə*, *dm̥̄tos* : *dm̥mətos* etc. (cited above) were restricted in IE to the situation provided by the preceding heavy or light syllable but in Skt or Gk this restriction was more significant.

Thus the long secondary vowels could occur after heavy syllables as positional variants of the short ones and after light syllables when they were of contractional origin. Gradu-

ally these long secondary vowels might have been used in any position irrespective of their origin and consequently, in course of time, the original picture started to be obscured, as a result of which often a single form is generalized in a particular language. And finally forms like *īy* and *ūw* etc. (as in Skt *svādīyas, babhūva* etc.) might have developed anew, which are not justifiable.

The positional variation of secondary vowels was first of all suggested by Edgerton (Language XIX p. 83-124), who did not include the long secondary vowels in his system, as a result of which the picture presented by him inspite of being quite systematic, elaborate and well-documented, remains incemplete. His exclusion of the long secondary vowels was probably because of the complicated distribution of the long ones. But the complication of the distribution, as shown above, was due to the two-fold origin of these long secondary vowels. The distribution, no doubt, is complicated, but the fact that they alternated, at a time, with the rest, is confirmed with many examples from the IE historical languages (Vide CGSGH 18 and the examples cited below). Therefore the long secondary vowels must also be included in the system. Brugmann's observations (although not presented in this light) also support my assumption of four variants. Brugmann also accepts four variants of the secondary vowels and for the conditioning of the variation at one place (312) he suggests that the unaccented syllable resulted in *i*, *y* etc. respectively before consonants and vowels and a syllable with secondary accent resulted in *ī*, *iy* etc. before consonants and vowels respectively; and at another place (120) he has shown that the alternative forms *y* : *iy* etc. occured respectively after short (= light) and long (= heavy) syllables. (Vide Brugmann CGIGL Vol. I, Tr. by J. Wright). He also admits that subsequently *y* : *iy* alternation is obscured by analogy and the historical languages have genralized either forms. As Latin has genralized the -*iy*- forms whereas classical Skt has generalized the -*y*- forms.

The positional variation probably continued in IIr (& Skt) for a considerable period even after it was separated from its sister dialects. IIr *i* < IE *ə*, also became *ī* in some words (**31**) which may be due to this fact.

Some examples of positional variations may now be cited below. The history of individual secondary vowels is taken up from the next Section.

A. IE *i* series

IE	*i*	*ī*	*y*	*iy*
IE	*dhi*	*dhī*	*dhy*	*dhiy*
Skt (Voc)	*devi*	(Nom) *devī*	*devyai*	*striyai*
	nadi	*dhīḥ*	*sudhyaḥ*	*dhiyaḥ*
Gk		*kī́s*	*kiós*	
IE	$g^{w}iw$	$g^{w}īw$	$g^{w}yŭ$	$g^{w}iyŭ$
Skt (aor)	*ajījivat*	*jīvaḥ*	*jujyūṣate* (ŚB)	
Gk	*bíos*	Lat *vīvus*		
Goth	*qius*	Lith *gývas*		
IE	*wiro–*	*wīro–*		
Skt	*virāṣāṭ*	*vīraḥ*		
Lat	*vir*	Lith *výras*		
Goth	*waír*	Av *vīrō*		

B. IE *u* series

IE	*u*	*ū*	*w*	*uw*
IE	*tu*	*tū*	*tw–*	*tuw–*
Gk (Dor)	*tu*	Lat *tū*	Skt *tvām*	Skt (Vd) *tuvam*
		Av *tū*		
Goth	*þu*	OE *þū*	Av *θwąm*	Av *tūm*
		OCS *ty*		*tv¯m*
IE	*bhu*	*bhū*	*bhw*	*bhuw*
Skt	*prabhuḥ*	*abhūt*(aor)	*abhvam*	*bhuvanam*
Gk	*phúsis*	*phû* (aor)	*huper-phíalos* (<**phwi–*)	*phúō*

Lat	*futūrus*	OCS *byti*	OCS *bě* (<*bwě)	
IE	*bhru*	*bhrū*	*bhrw*	*bhruw*
Skt	*subhru* (Voc)	*bhrūḥ*		*bhruvaḥ*
		Gk *ophrū̃s*		*ophruós*
		OE *brū*		
IE	*sunu*	*sūnu*		
Goth	*sunus*	Skt *sūnuḥ*		
		OCS *synŭ*		

C. IE r̥ series

IE	*r̥*	*r̥̄*	*r*	*r̥r*
IE	*str̥*	*str̥̄*	*str*	*str̥r*
Skt	*vi-str̥taḥ*	*vi-stīrṇah*	*tastrire*	*tistire*
Gk	*stratós*	*strōtós*		OCS *stĭrą*
		Lat *strātus*	Lat *struere*	
		Av *starətō*		
IE	*mr̥*	*mr̥̄*	*mr*	*mr̥r*
Skt	*mr̥taḥ*	*mumūrṣati*	*mamre*	*muriya* (AV)
Av	*mərətō*	Gk *brotós*		
Lith	*mirtìs*	< **mbrōtos*		
OCS	*-mrĭtĭ*			
IE	*qr̥*	*qr̥̄*	*qr*	*qr̥r*
Skt	*kr̥taḥ*	*cikīrṣati*	*cakre*	*kurute*
Av	*kərətō*			
OP	*kr̥ta*			
IE	*r̥dhwos*	*r̥̄dhwos*		
Av	*ərəδwō*	Skt *ūrdhvaḥ*		
		Gk *orthós*		
		Lat *arduos*		
IE	*dr̥*	*dr̥̄*	*dr*	*dr̥r*
Skt	*dr̥tiḥ*	*dīrṇaḥ*	*dadruḥ*	*dardirat*
Av	*dərətō*			
Gk	*dratós*			
	dartós			

D. IE *l̥* series

	l̥	*l̥̄*	*l*	*l̥l*
IE	*pl̥*	*pl̥̄*	*pl*	*pl̥l*
Skt	*pipr̥maḥ*	*pūrṇaḥ*	*pi-pr-ati*	*pur-uḥ*
Gk	*píplamen*	*polloí*		Av *pouru-*
		OIrish *lān*		OP *paru*
Av	*pərənō*			
Lith	*pìlnas*			
OCS	*plŭnŭ*			
Goth	*fulls*			
IE	*ml̥dh*	*ml̥̄dh*		
Av	*ka-mərəδa-*			
		Skt *mūrdhan-*		
OE	*mold*	Gk *blōthrós*		

E. IE *m̥* series

IE	*m̥*	*m̥̄*	*m*	*m̥m*
IE	*gʷm̥*	*gʷm̥̄*	*gʷm*	*gʷm̥m*
Skt	*gataḥ*	*agāt*	*agmata*	*gamyate*
Gk	*batós*	*bê*		*baínō*(< **banyō*)
				Lat *venio*
IE	*dm̥*	*dm̥̄*	*dm*	*dm̥m*
		Skt *dāntaḥ*	Skt *sa-dm-a*	*damitaḥ*
		Gk *dmātós*	Av *ha-dm a*	Gk *adámatos*
IE	*sm̥*	*sm̥̄*	*sm*	*sm̥m*
Skt	*sa-*		Gk *mia-*	Skt *samaḥ*
Gk	*ha-*		< **smia*	Gk *hamós*
				Goth *sums*
IE	*k̂m̥*	*k̂m̥̄*	*k̂m*	*k̂m̥m*
		Skt *śāntaḥ*		Skt *śamitaḥ*
		Gk *kmētós*		Gk *kámatos*

F. IE *n̥* series

IE	*n̥*	*n̥̄*	*n*	*n̥n*
IE	*gʷhn̥*	*gʷhn̥̄*	*gʷhn*	*gʷhn̥n*
Skt	*hataḥ*	*ghātaḥ*	*ghnanti*	*hanyate*

Gk	*phatós*	*thnātós*	*épephnon*	*thánatos*
IE	*ĝn̥*	*ĝn̥̄*	*ĝn*	*ĝn̥n*
Skt	*dvijaḥ*	*jātaḥ*	*jajñire*	*janitaḥ*
Gk	*gégamen* Lat *gnātus*			

33. IE *i* > IIr *i* > Skt *i*, most other IE languages also have *i*.

IE *ite* > IIr *ita* > Skt *ita*, cp Gk *íte*, Ht *iten*.

IE *idhi* > IIr *idhi* > Skt *ihi*, Av *iδi*, OP *idiy*, cp Gk *íthi*

IE *q^{w}id* > IIr *cid* > Skt *cit*, Av *cit*, OP *ciy* cp Gk *tí*, Lat *quid*, Ht *kwit*.

IE *esti* > IIr *asti* > Skt *asti*, Av *asti*, OP *astiy* cp Gk *ésti*, Ht *estsi*, OCS *jestĭ*.

IE *esmi* > IIr *asmi* > Skt *asmi*, Av *ahmi*, OP *a*(*h*)*miy* cp Gk *eimí*, (Cret) *ēmí*, (Lesb) *émmi*, Ht *esmi*, OCS *jesmĭ*.

IE *sthisthāmi* > IIr *sthiṣṭhāmi* > Skt *tiṣṭhāmi*, Av *hištāmi*, cp Gk (Dor) *hístāmi*, (Att–Ion) *hístēmi*, Lat *sistō*, Ht *titami*.

34. IE *u* > IIr *u* > Skt *u*; most others *u*.

IE *upo* > IIr *upa*>Skt *upa*, Av & OP *upa* Skt *upa*, cp Gk *húpo*

IE *nu* > IIr *nu* > Skt *nu* (cp Av *nū*), cp Gk *nù*, Ht *nu*, Goth *nu*, Lat *nu-dius*, Lith *nù-gi*, OHG *nu*, *no*, OIrish *nu*, *no*.

IE *yugom* > IIr *yugam* > Skt *yugam*, cp Gk *zúgon*, Lat *iugum*, Ht *yugan*, Goth *juk*.

IE *ĝēnu* > IIr *žānu*– > Skt *jānu*, Av –*snu* (< IE *ĝnu*), cp Gk *gónu* (< IE *ĝonu*), Lat *genu*, Ht *genu*,

IE *bheretu* >IIr *bharatu* >Skt *bharatu*, Av *baratu*, OP *baratuv*, cp Ht *s ratu*.

IE *rudhros* > IIr *rudhras* > Skt *rudhiraḥ* cp Gk *eruthrós*, Lat *ruber*, OCS *rŭdrŭ*.

35. IE *r̥* > IIr *r̥* > Skt *r̥* (& *l̥*).

IE *r̥* & *l̥* > IIr *r̥* > Skr *r̥* & *l̥* and similarly IE *r* & *l* > IIr *r* > Skt *r* & *l*. This hypothesis is supported by the fact that Indo-Aryan shows a continued tendency of changing *r* into *l*. In RV, there are many words, which show *r* in earlier

portions, and *l* in later portions. Conseqently in many eases, where even the late portions of RV show *r*, other Saṃhitās show *l* and similarly a vedic *r* often corresponds to a classical *l*, and a Skt *r* to MIA *l*. One MIA dialect (viz. Māgadhī) has generalized *l* for all *r* sounds. Thus Skt historically shows a marked dendency of changing *r* to *l* throughout all the stages. This tendency of Skt, supported by the absence of *l* in Iranian, is the basis of the assumption of IE r̥ & l̥ > IIr r̥ and IE *r* & *l* > IIr *r* and IIr r̥ > Skt r̥, l̥ and IIr *r* > Skt *r* & *l*. But l̥ is attested in Skt only in one root (viz. √ *kl̥p*), whereas *l* is quite common. Therefore practically IIr r̥ (< IE r̥ & l̥) is attested as r̥ only (& not as l̥) also in Skt.

Similarly also IIr r̥̄ (> IE r̥̄ & l̥̄) and IIr *r̥r* (< IE *r̥r* & *l̥l*) normally show *-r-* forms and rarely *l* forms in Skt,

Examples of IE r̥ in Skt are given below.

IE *r̥k̂θos* > IIr *r̥ššas* > Skt *r̥kṣaḥ* 'bear', Av *arəšō* cp Gk *árktos*, Lat *ursus* (< **urcsus*)

IE *dhr̥s* >IIr *dhr̥š* > Skt *dhr̥ṣ-* 'dare', Av *darəš–*, OP *darš-*, cp Gk *tharsús*, *thrasús* 'courageous', Goth *ga-daúrsan*

IE *esr̥* > IIr *asr̥* > Skt *asr̥k* 'blood', Gk *éar*, Ht *esar*

IE *yĕqʷr̥* > IIr *yăkr̥* > Skt *yakr̥t* 'livs', Av *yākarə*, Gk *hêpar*, Lat *iecur*

IE *mr̥tos* > IIr *mr̥tas* > Skt *mr̥taḥ*, Av *mərətō*, OHG *mord*, Goth *maúrþr*, OE *morþor*, Lat *mors*, *mortis*, Gk *brotós*.

36. IE l̥ > IIr r̥ > Skt r̥(l̥) (see 35)

IE *wl̥qʷos* > IIr *vr̥kas* > Skt *vr̥kaḥ*, Av *vəhrkō*, cp Gk *lúkos*, Lat *lupus*, Goth *wulfs*, Lith *vilkas*, OCS *vlŭkŭ*, Arm *gail*

IL *pl̥thus* > IIr *pr̥thuṣ* > Skt *pr̥thuḥ*, Av *pərəθuš* cp Gk *platús* < IE *pl̥tus*)

IE *pipl̥mes* > IIr *pipr̥mas* > Skt *pipr̥maḥ* cp Gk *em-píplamen*

IE *l̥k̂yos* > IIr *r̥śyas* > Skt *r̥śyaḥ* 'a kind of deer' cp OE *eolh*, OHG *elaho*, OIcel *elgr*, Lat *alces*,

36a. Skt *r̥* (< IIr *r̥* < IE *r̥*/*l̥*) has become *a, i, u* in MIA. In OIA also there are also a few sporadic cases where *r̥* is represented by *a, i, u*. These are considered to be cases of Prakritism in Sanskrit. e.g. Skt *vaṭa*–(< *vr̥ta*–), *kaṭa*–(< *kr̥ta*–), *śithila* (< *śr̥th*– cp *śrath*, *ślatha* etc), *uḍupati*– 'moon' (< *r̥tupati*–)

36b. Skt *r̥*, on the contrary, sometimes stands for original *ri*/*ru*. e.g. Skt *tr̥tīya* (<**tri-tīya* < IE *tri-tiyo*), Skt *śr̥ṇoti* (<**śrunoti* < IE *k̂lu-neu-ti*).

37. IE *m̥* > IIr *a* > Skt *a*, Av & OP *a*, Gk *a*, Lat *em*/*im*, Goth *um* etc.

IE *m̥* & *n̥* both have become *a* in IIr and Skt (as well as Gk). Therefore IE *m̥* & *n̥* can be determined from the cognates in other IE languages and the strong forms of the respective roots in Skt.

Examples :—

IE *k̂m̥tom* > IIr *šatam* > Skt *śatam*, Av *satəm*, OP *θata-gu-*, cp Lith *szimtas*, OCS *sŭto*, Gk *he-katón*, Lat *centum*, OIrish *cēt*, Goth *hund*, Tokh *känt*.

IE *dek̂m̥* > IIr *daša* > Skt *daśa*, Av *dasa*, cp Gk *déka*, Lat *decem*, Goth *taihun*

IE *g^w m̥tis* > IIr *gatiš* > Skt *gatiḥ*, Av *gaitiš*, cp Gk *básis*, Lat *in-ventio*, Goth *ga-qunþs*.

IE *septm̥* > IIr *sapta* > Skt *sapta*, Av *hapta*. cp Gk *heptá* Lat *septem*, Goth *sibun*.

38. IE *n̥* > IIr *a* > Skt *a*, Av & OP *a*, Gk *a*, Lat *en*/*in*, Goth *nn*.

IE *mn̥tós* > IIr *matas* > Skt *mataḥ*, cp Gk *-matos* (as in *autó-matos*), Lat *-mentus* (as in *com-mentus*), Goth *ga-munds*.

IE *newn̥* > IIr *nawa* > Skt *nava*, Av *nava*, cp Gk *en-néa*, Lat *novem* (*-m* analogical after *septem*, *decem* etc.), Goth *niun*.

IE *g^whn̥tos* > IIr *ghatas* > Skt *hataḥ*, Av *jatō* (Skt *h-* & Av *j-* are analogical extensions from the strong forms of the root viz., Skt *han*, & Av *jan* < IE *g^when*) cp Gk *phatós* cp OIcel *gunnr*.

IE *n̥* > IIr *a* > Skt *a-* 'negative prefix', Av & OP *a-* Gk *a-* Lat *in-*, Goth *un-* etc.

39. IE *ī* > IIr *ī* > Skt *ī*, Av & OP *ī*, Gk *ī*, Lat *ī* etc.

IE *g^wīwos* > IIr *jīvas* > Skt *jīvaḥ*, OP *jīva*, Av *jīvya-*, cp OCS *živŭ*, Lith *gývas*, Lat *vīvus* (cp Gk *bíos* < IE *g^wiwos*).

IE *wīros* > IIr *vīras* > Skt *vīraḥ*, Av *vīrō*, Umb *veiro-*, (cp Goth *waír* & Lat *vir* < IE *wiro-*).

IE *pīwen* > IIr *pīvan* > Skt *pīvan*, Gk *píōn*.

IE *sīmen* > IIr *sīman* > Skt *sīmā*, Gk *hīmás*.

IE *trī* (< IE *tri*+*ə*) > IIr *trī* > Skt (Vd) *trī*, cp Lat *trī-(ginta)*, *tria*, Gk *tría* (< IE *triyə*).

IE *q^wrītos* > IIr *krītas* > Skt *krītaḥ*, cp Gk *epriato* < IE *e-q^wriyəto*.

IE *bherontī* > IIr *bharantī* > Skt *bharantī*, Av *barəntī-*, Gk *phérousa*.

40. IE *ū* > IIr *ū*>Skt *ū*, also *ū* in Av, OP, Gk, Lat etc.

IE *dhūmos* > IIr *dhūmas* > Skt *dhūmaḥ*, Gk *thūmós*, Lat *fūmus*, OCS *dymŭ*, Lith (pl) *dúmai*.

IE *mūs* > IIr *mūṣ̌* > Skt *mūṣ-ika-*, Gk *mûs*, Lat *mūs*, OE *mūs*, OHG *mūs*, OCS *myšĭ*.

IE *bhrūs* > IIr *bhrūṣ̌* > Skt *bhrūḥ*, cp Gk *ophrûs*, OIcel *brūn*, OE *brū*.

IE *k̂ūros* > IIr *šūras* > Skt *śūraḥ*, Av *sūrō*, OP *θūra*, cp Gk *a-kûros* 'weak'.

41. IE r̥̄ > IIr r̥̄ > Skt *īr/ūr.*

IE r̥̄ & l̥̄ > IIr r̥̄ (35) and IIr r̥̄ > *īr* or *ūr* in Skt; Skt *ūr* is mostly found after labials.

IE *str̥̄nos/str̥̄tos* > IIr *str̥̄nas/str̥̄tas* > Skt *stīrṇaḥ,* Av *starətō,* cp Gk *strōtós,* Lat *strātus.*

IE *pr̥̄wos* > IIr *pr̥̄vas*>Skt *pūrvaḥ,* cp Av *paoiryō* (<**parvyas*), OP *paruvam,* Gk *prôtos,* (Dor) *prâtos.*

IE *r̥̄dhwos* > IIr *r̥̄dhvas* > Skt *ūrdhvaḥ,* cp Gk *orthós,* Lat *arduus.*

IE *r̥̄mos* > IIr *r̥̄mas* > Skt (Vd) *īrmaḥ,* Lat *armus,* Goth *arms,* Av *arəma-.*

42. IE l̥̄ > IIr r̥̄ (35) > Skt *īr/ūr* (41).

IE *dl̥̄ghos* > IIr *dr̥̄ghas* > Skt *dīrghaḥ,* Av *darəγō,* OP *darga,* cp Gk *dolikhós,* Ht *dalugas.*

IE *pl̥̄nos* > IIr *pr̥̄nas* > Skt *pūrṇaḥ,* cp Gk *polloí* (<* *polnoi*) 'many'.

IE *wl̥̄nā* > IIr *vr̥̄nā* > Skt *ūrṇā* (<* *wūrṇā*), cp Lat *lāna,* cp Gk *oûlos.*

IE *ml̥̄dh* > IIr *mr̥̄dh* > Skt *mūrdhan,* cp Gk *blōthrós.*

42a. Although IIr r̥̄ (< IE r̥̄ & l̥̄) has become *īr/ūr* in Skt, Skt has developed r̥̄ anew in r̥ declensions, in Mc-Fem Acc pl and Gen pl and in Nt pl forms. e.g, Acc pl Mc *pitr̥̄n,* Fem *mātr̥̄ḥ,* Gen pl *pitr̥̄ṇām, mātr̥̄ṇām,* Nt pl *dātr̥̄ṇi.* These are formed after similar case-forms of other vowel declensions with long vowels; e.g. *aśvān, avīn, matīḥ, aśvānām, avīnām, vārīṇi* etc.

43. IE m̥̄ > IIr *ā* (& *ām* ?) >Skt *ā* (rare)/*ām* (frequent).

IE m̥̄ & n̥̄ are represented sometimes as *ām/ān* & sometimes as *ā,* just like *mā/nā* and *ā* in Gk (Doric). One root, however shows *mā* in Skt e. g. *dhmātaḥ* 'blown' which may not be from IE m̥̄. It is observed that in most cases IE m̥̄ > *ām* in Skt, IE n̥̄>*ā* in Skt. Since the Iranian evidence for IE m̥̄/n̥̄ is very poor, IIr representation cannot be ascertained more accurately.

Examples :—

IE *dm̥tos* > Skt *dāntaḥ*, Gk (Dor) *dmātós*, (Att-Ion) *dmētós*.
IE *k̂m̥tos* > Skt *śāntaḥ*, Gk (Dor) *kmātós*, (Att-Ion) *kmētós*.
IE *eg*^{w}*m̥t* > Skt *agāt*, Gk *ébē*.

Similarly Skt *vāntaḥ* (<IE *wm̥tos*), *kāntaḥ* (√*kam*), *krāntaḥ* (√*kram*), *klāntaḥ* (√ *klam*), *śrāntaḥ* (√ *śram*) etc.

44. IE *n̥* > IIr *ā*(& *-ān* ?) > Skt *ā* (frequent)/*ān* (rare) (43).

IE *ĝn̥tos* > IIr *žātas* > Skt *jātaḥ*, Av *zātō* Lat (*g*)*nātus*.
IE g^{w}*hn̥tos* > Skt *ghātaḥ*, Gk (Dor) *thnātós*, (Att-Ion) *thnētós*.
IE *wn̥sk̂eti* > Skt *vāñchati*, OHG *wunsc* (cp Skt *vivāsati* ⊲ IE *wiwn̥-se-ti*, *vātah* < IE *wn̥tos*).

Similarly Skt *khātaḥ* (< IE *qhn̥tos*), *sātaḥ* (< IE *sn̥tos*), *dhvāntah* (< IE *dhwn̥tos*) etc,

45. Treatment of IE *iy*, *uw*, *r̥r*, *l̥l*, *m̥m* & *n̥n* in Skt.

IE *iy* & *uw* > IIr *iy* & *uv* > Skt *iy* & *uv*.
IE *r̥r* & *l̥l* > IIr *r̥r* > Skt *ir*/*ur*, *il*/*ul*.
IE *m̥m* & *n̥n* > IIr *am* & *an* > Skt *am* & *an*.

Examples :—

(1) IE *iy* > IIr *iy* > Skt *iy*.

IE *pətriyos* > Skt *pitriyah*, Gk *pátrios*, Lat *patrius*.
IE *aĝriyos* > Skt *ajriyaḥ*, Gk *ágrios*.
IE *siyēm* > Skt (Vd) *siyām*, Gk *eíēn*, Lat *siēm*, Goth *sijau*.

(2) IE *uw* > IIr *uv* > Skt *uv*.

IE *bhruwos* > Skt *bhruvaḥ* (cp Av *brvatbyąm* =**bruvatbyąm*), Gk *ophrúos*).
IE *duwō*(*u*) > Skt (Vd) *duvau*, *duvā*, Gk *dúō*, Lat *duo*.
IE *bhuwm̥m* > Skt *bhuvam* cp Gk *phuḗ*.

(3) IE *r̥r* & *l̥l* > IIr *r̥r* > Skt *ir*, *ur* and also rarely *il*, *ul*, Av *ar*, OP *ar*.

IE g^{w}*r̥rus* > IIr *gr̥ruš* > Skt *guruḥ*, Av *gouruš*, Gk *barús*, Goth *kaúrus*.

IE g^{u}*r̥ris* > IIr *gr̥riṣ̌* > Skt *giriḥ*, Av *gairiš*, Lith *gìria*.

IE *pr̥ros* > IIr *pr̥ras* > Skt *puraḥ*, Av *parō* Gk *páros*, Goth *faúr*.

IE *pr̥rā* > IIr *pr̥rā* > Skt *purā*, Av *parā*, Goth *faúra*.

IE *tr̥rn̥s* > IIr *tr̥ras* > Skt *tiraḥ*, Av *tarō*, OP *tara*, cp Lat *trans* (< IE *tr̥̄us*).

IE *pl̥lus* > IIr *pr̥ruṣ̌* > Skt *puruḥ*, Av *pouruš*, OP *paru-*, cp Gk *polús* (<**palus*).

IE *ql̥lo-* > IIr *kr̥ra-* > Skt *kula-* 'family, house', *kulāyam* 'nest'. Av *kara-* 'group', Gk *kaliá* 'nest' Goth *hulundi* 'hole'.

(4) IE *m̥m* > IIr *am* > Skt *am*.

IE *sm̥mos* > IIr *samas* > Skt *samaḥ*, Av & OP *hama-*, cp Gk *hamós*, Goth *sums*, OIcl *sumr*.

IE *ēs-m̥m* > IIr *āsam* > Skt *āsam*, OP *āham*, cp Ht *esun* (cp Gk *ȇa* < IE *ēsm̥*).

IE *pōd-m̥m* > IIr *pādam* > Skt *pādam*, Av *pāδəm* (cp Gk *poda* < IE *pod-m̥*).

(5) IE *n̥n* > IIr *an* > Skt *an*.

IE *n̥n-udros* > IIr *anudras* > Skt *anudraḥ*, Gk *ánudros*.

IE *tn̥nu-* > IIr *tanu-* > Skt *tanu-*, Av *tanu-*, Gk *tanu-*, OCS *tĭnŭkŭ*.

46. IE *y*, *w*, *r*, *l*, *m*, *n* (See Ch XII)

CHAPTER VII

Diphthongs

47. Diphthongs in IE, IIr and Skt.

The IE diphthongs are classified as short and long diphthongs depending on the preceding short or long primary vowels. These again may further be classified as the diphthongs ending in *i* or *u*. In IE there were six short diphthongs (three ending in -*i* & three ending in -*u*) and six long diphthongs (where also, three ending in -*i* & three in -*u*). But the picture is much simpler in IIr. There are only four diphthongs here as against IE twelve, because the primary vowels *a*, *e*, *o* fell together in IIr. Therefore IE *ai*, *ei*, *oi* > IIr *ai*; IE *au*, *eu*, *ou* > IIr *au*, IE *āi*, *ēi*, *ōi* > IIr *āi*; and IE *āu*, *ēu*, *ōu* > IIr *āu*. In Skt the IIr picture has also been considerably altered. IIr *āi* > Skt *ai*; IIr *āu* > Skt *au*, IIr *ai* > Skt *e*, and IIr *au* > Skt *o*. Thus the long diphthongs have become short and the short diphthongs have been monophthongized in Skt. In the oldest stage of OIA, the IIr value was probably retained intact, as is inferable from some evidences in RV (Vedic 21 A (1) for illustrations)

47a. IE *əi* & *əu*.

Two more short diphthongs viz. *əi* & *əu* are also sometimes assumed for proto-IE. These are supposed to have become *ai* & *au* in all the IE historical languages, including IIr, where otherwise IE *ə* becomes *i*. Some think that IE *əi* & *əu* have become *ī* & *ū* in IE, like IE *iə* & *uə*. Thus assumption of these two diphthongs is controversial. Examples are quite few and doubtful. In some cases the examples can be explained from IE *ai* & *au*. The necessity of assumption of *əi* & *əu* has arisen

specially in some sases, where IIr shows *ai* & *au* for some roots with long radical vowels. e.g.

IE *sthəi* > IIr *sthai* > Skt *stheyām*, cp Av *stayata*, beside IE *sthā-*.

IE *dhəi* > IIr *dhai* > Skt *dhenū*, *dhayati*, Av *daēnu*, cp OCS *doją* beside IE *dhē(i)*.

IE *əusthōu* > IIr *austhāu* > Skt *oṣṭhau*, Av *aošta-ca*, cp Lat *ausculum*, *austium* beside IE *ōus*.

But in several cases the examples may also be explained from IE short diphthongs *ai*, *ei*, *oi*, *au*, *eu*, *ou*, as assumption of *ə* is not a must in most of the examples.

48. IE *ai* > IIr *ai* > Skt *e*.

IE *aidhos* > IIr *aidhas* > Skt *edhaḥ*, cp Av *aēsma-* (*sm* < *δm*), Gk *aîthos*, Lat *aedēs*, *aestus*, OIrish *aed*, OHG *eit*, OE *ād*.

IE *k̂unai* > IIr *šunai* > Skt *śune*, Av *sūne*, cp Gk *idmenai* (Dat inf.)

IE *bheretai* > IIr *bharatai* > Skt *bharate*, Av *baraitē*, cp Gk *pheretai*, Goth *bairada*.

IE *saitus* > IIr *saituṣ* > Skt *setuḥ*, Av *haētuš*, cp Lat *saeta*, OHG *seid*.

IE *stainos* > IIr *stainas* > Skt *stenaḥ*, beside *stāyuḥ* (< IE *stāyus* 156).

49. IE *ei* > IIr *ai* > Skt *e*.

IE *eiti* > IIr *aiti* >Skt *eti*, Av *aēiti*, OP *aitiy*, cp Gk *eîsi*, Lat *īt*, Lith *eĩti*.

IE *ĝheimonts* > IIr *žhaimants* > Skt *heman*, *hemantaḥ*, Lith *žẽma*, Gk *kheîma*, *kheimṓn*, Ht *gemants*.

IE *deiwos* > IIr *daivas* > Skt *devaḥ*, Av *daēvō*, OP *daiva*, Lith *dẽvas*, Osc *d e i v a i*.

IE *deik̂os* > IIr *daišas* > Skt *deśaḥ*, Av *daēs-*, cp Gk *deiknūmi*, Ht *dekusami*, Goth *ga-teihan*.

50. IE *oi* > IIr *ai* > Skt *e*.

IE *moi* > IIr *mai* > Skt *me*, Av *mē*, *mōi*, OP *maiy*, cp Gk *moi*, Ht *me*.

IE *toi* > IIr *tai* > Skt *te*, Av *tē*, *taē*, *tōi*, OP *taiy*, cp Gk *toí*.

IE *woide* > IIr *vaida* > Skt *veda*, gAv *vaēdā*, cp Gk *oîde*, Goth *wáit*, OPruss *waisse*.

IE *bherois* > IIr *bharaiṣ* > Skt *bhareḥ*, Av *barōiš*, Gk *phérois*, Goth *baíráis*.

51. IE *au* > IIr *au* > Skt *o*.

IE *auges* > IIr *aujas* > Skt *ojaḥ*, Av *aojō*, cp Gk *aúksō* (<IE *auqsō*), Lat *augeo* (< IE *augeyō*), Goth *áukan*, OIcel *auka*.

IE *sausos* > IIr *sauṣas* > Skt *śoṣaḥ*, cp Av *haoš-*, Gk *aûos*, Lith *saũsas*, OCS *suchŭ*, OHG *sōrēn*.

52. IE *eu* > IIr *au* > Skt *o*.

IE *leuqes*/*leuqos* > IIr *raucas*/*raukas* > Skt *rocaḥ*, *loca–*, *rokaḥ* (Vd), *lokaḥ*, Av *raocō*, OP *rauca*, cp Gk *leukós*.

IE *bheudhetai* > IIr *bhaudhatai* > Skt *bodhate* Av *baoδaitē*, Gk *peúthetai*.

IE *ĝeusos* > IIr *žauṣas* > Skt *joṣaḥ*, Av *zaošō*, cp OP *daušta r-*, Gk *geuṓ*, Goth *kiusa*, OHG *kiusu*.

53. IE *ou* > IIr *au* > Skt *o*.

IE *sŭnous* > IIr *sŭnaus* > Skt *sūnoḥ*, Lith *sūnaũs*, Goth *sunáus*.

IE (*bhe–*)*bhoudhe* > IIr *bhabhaudha* > Skt *bubodha* (for **babodha*), Goth *bauþ*.

IE (*ĝe–*)*ĝouse* > IIr *žažauṣa* > Skt *jujoṣa* (for **jajoṣa*), Goth *kaus*.

54. IE *āi* > IIr *āi* > Skt *ai*.

IE *eḱwāi* > IIr *aśvāi* > Skt *aśvāyai* (for **aśvai*, with stem extension) cp Vd *suvapatyai*, cp Gk *theâi*, Lat *equae*.

IE *āidhom* > IIr *āidham* > Skt *aidham* 'flame' (beside IE *aidhos* etc. 48).

IE *q^{w}osyāi* > IIr *kasyāi* > Skt *kasyai*, Av *kahyāi*, cp Goth *ƕizái* (< IE *q^{w}esāi*).

55. IE *ēi* > IIr *āi* > Skt *ai*.

IE *ēite* > IIr *āita* > Skt *aita*, cp Av *āit̰*, OP *āiš* (< IE *ēit*) Gk *ēîte*.

IE *edēiḱsm̥* > IIr *adāišṣ̌am* > Skt *adaikṣam*, cp Av *dāiš* (<IE (*e*)*dēiḱ-s-s*), Gk *édeiksa* (< **edēiksa*).

IE *elēiq^{w}sm̥* > IIr *arāikṣ̌am* > Skt *araikṣam*, Gk *éleipsa* (< **elēipsa*).

56. IE *ōi* > IIr *āi* > Skt *ai*.

IE *eḱwōi* > IIr *ašvāi* > Skt *aśvāya* (< *aśvai* + particle *-a*), Av *aspāi*, Gk *híppōi*.

IE *wl̥q^{w}ōis* > IIr *vr̥kāiṣ̌* > Skt *vr̥kaiḥ*, Av *vəhrkāiš*, Lith *vilkaĩs*, Gk *lúkois*, Lat *lupīs*.

57. IE *āu* > IIr *āu* > Skt *au*.

IE *nāus* > IIr *nāuṣ̌* > Skt *nauḥ*, cp Gk (Dor) *naûs*, OIrish *nau*.

58. IE *ēu* > IIr *āu* > Skt *au*.

IE *dyēus* > IIr *dyāuṣ̌* > Skt *dyauḥ*, Gk *zeús* (< **zēus*).

59. IE *ōu* > IIr *āu* > Skt *au*.

IE *g^{w}ōus* > IIr *gāuṣ̌* > Skt *gauḥ*, Av *gāuš*, Gk *boûs* (< **bōus*), OIrish *bō*.

IE *dwōu* > IIr *dvāu* > Skt *dvau*, OIrish *dau*.

IE *oḱtōu* > IIr *aštāu* > Skt *aṣṭau*, Goth *ahtáu*.

CHAPTER VIII

Ablaut

60. Ablaut in IE

The term ablaut is employed to signify a specific type of alternation of the primary vowels, which was not at all a positional variation. A single morpheme (whether a root or a suffix) may sometimes show a short primary vowel, sometimes a long primary vowel of the same quality, or sometimes a short or long primary vowel of a diffierent quality. For example a particular morpheme with IE *e* may also sometimes show *o*, *ē*, or *ō* and sometimes this vowel may be entirely lost.

Thus there are clearly two types of ablaut (i) apophony or quantitative ablaut or alternation in quantity i.e. alternation of *e*:*ē* or *o*:*ō* etc.; (ii) metaphony or qualitative ablaut or alternation in quality of the vowel i.e. alternation of *e*:*o* or *ē*:*ō* etc. Since both the types operate together an ablaut pattern may show *e*:*o* with qualitative change and *e*:*ē* with quantitative ablaut and *e*:*ō* with change both in quality and quantity. Therefore a root or suffix with *e* may show *o*, *ē*, *ō* etc. as well, in different derivatives from the same root or in different inflexional forms of a particular morpheme in Indo-European.

The quantitative ablaut has three gradations (i) The strong or normal grade where the short or long radical vowel is represented with an acute accent (2) The long or lengthened grade, where a short primary vowel is lengthened. (This grade is naturally absent with a morpheme, which shows a long primary vowel in strong grade.) (3) The weak grade, where the primary vowel is either lost or reduced. Accordingly the weak grade may further be sub-divided under two sub-grades; (a) NIL grade or ZERO grade where the primary vowel is entirely lost;

(b) reduced grade, where the primary vowel is reduced. The roots which show long vowels in strong grade, show ə (schwa) in reduced grade. The roots which show short vowels in strong grade, sometimes remain intact in reduced grade, with loss of accent; such roots normally show nil grade forms, but when entire loss of the primary vowel makes inconvenient phonetic situation, which would result in the loss of some consonants, the primary vowel often remains. Some posit a schwa secundum or second schwa as a reduced vowel corresponding to short primary vowels, but such an assumption is not acceptable due to poverty of evidence of cognates. Moreover evidence shows retention of the primary vowel, in such cases. Whereever the primary vowel *a* is attested, it may always be safely derived from ə, except in IIr. Ofcourse, in that case, ə will have to be accepted as the reduced grade vowel of both short and long redical primary vowel. Many hasitate to accept ə as a reduced vowel of short primary vowels, but there is no phonetic absurdity in such an assumption.

If a secondary vowel precedes or follows a primary vowel in a morpheme, the secondary vowel remains in the weak grade as well and as it is subject to positional variation, accordingly the morpheme may show several alternative forms. If a primary vowel is replaced by schwa in the weak grade (i.e. reduced grade), it may lengthen the secondary vewel by contraction. Otherwise the secondary vowel may appear with any of its positional variants. e.g. IE *ei* may show *i*, *ī*, *y* or *iy* in zero grade and IE *ēi* may show ī (<ə+*i*) in reduced grade and *i*, *ī*, *y*, *iy* in zero grade. This variation is a different one and comes under positional variation. Ablaut and positional variation are applicable respectively to primary and secondary vowels, but when a primary and a secondary vowel come together in a morpheme, positional variation is effected by ablaut.

Many IE roots originally had two primary vowels; the IE roots reconstructed on the basis of comparative study nor-

mally show only one primary vowel, but the comparative evidence often reveals that this reconstructed form is definitely a weak grade form of an earlier root with two primary vowels. IE shows a form *ĝenu* on the basis of Skt, Gk, Lat etc. but *ĝneu* on the basis of Germanic languages; both these forms are weak grade forms from an earlier form *ĝeneu–*. Skt *darś–ana–* (< IE *derk̂–*) and *draṣṭā* (< IE *drek̂–*) indicate that IE *derek̂* must have been an earlier form. Similarly IE *doru* (cp Gk *doru*, Skt *dāru* etc.) and IE *dreu* (cp Goth *triu* etc.) must come from an earlier IE *dereu*.

Accent had an important role in ablaut variation. It is a fact that loss of accent was responsible for weak grade. In other words when accent was shifted from one syllable to another, the primary vowel became weakened or was lost in the syllable, where the accent had its earlier position. This can be confirmed with several examples from Vedic Skt also; e.g. IE *és–mi* (Skt *ás–mi*), *s–més* (Skt *smáḥ*). But gradually in late IE there might have been analogical extensions, as a result of which, there are also several cases where a weak grade vowel retains the accent, e.g., IE *wĺ̥qʷos* (Skt *vŕ̥kah*, Gk *lúkos*, Goth *wulfs* etc.), *septḿ̥* (Skt *saptá*, Gk *heptá*, Goth *sibun* etc), on the other hand accentless primary vowels have been retained in several cases. Some further assume that the qualitative change was due to a change in the pitch accent. But this lacks evidence.

There are six ablaut series, distinguished on the basis of the normal grade representation of the six primary vowels, both short and long. They are :—

series	strong grade	long grade	weak grade reduced	NIL
a	*a* : *o*	*ā* : *ō*	(*a*) :	nil
e	*e* : *o*	*ē* : *ō*	(*e*) :	nil
o	*o*	*ō*	(*o*) :	nil
ā	*ā* : *ō*	—	ə :	nil
ē	*ē* : *ō*	—	ə :	nil
ō	*ō*	—	ə :	nil

The *e* series followed by the secondary vowels presents the following types of forms. (Mark the weak grade specially).

strong grade	long grade	weak grade reduced	weak grade NIL
ei : oi	*ēi : ōi*	—	*i, y, ī, iy*
eu : ou	*ēu : ōu*	—	*u, w, ū, uw*
er : or	*ēr : ōr*	—	*r̥, r, r̥̄, r̥r*
el : ol	*ēl : ōl*	—	*l̥, l, l̥̄, l̥l*
em : om	*ēm : ōm*	—	*m̥, m, m̥̄, m̥m*
en : on	*ēn : ōn*	—	*n̥, n, n̥̄, n̥n*

The *ē* series followed by the secondary vowels, presents the following alternations. (Mark the weak grade).

strong grade	long grade	weak grade reduced	weak grade NIL
ēi : ōi	—	*ī* (< *əi*)	*i, ī, y, iy*
ēu : ōu	—	*ū* (< *əu*)	*u, ū, w, uw*
ēr : ōr	—	*r̥̄* (< *ər̥*)	*r̥, r̥̄, r, r̥r*
ēl : ōl	—	*l̥̄* (< *əl̥*)	*l̥, l̥̄, l, l̥l*
ēm : ōm	—	*m̥̄* (< *əm̥*)	*m̥, m̥̄, m, m̥m*
ēn : ōn	—	*n̥̄* (< *ən̥*)	*n̥, n̥̄, n, n̥n*

When preceded by the secondary vowels, the *e* series and *ē* series naturally present similar weak grade forms, as shown above respectively with *ei* and *ēi* e.g.

strong grade	long grade	weak grade reduced	weak grade NIL
ye : yo	*yē : yō*	—	*i, y, iy, ī*
we : wa	*wē : wō*	—	*u, w, uw, ū*
re : ro	*rē : rō*	—	*r̥, r, r̥r, r̥̄*
etc. and			
yē : yō	—	*ī* (< *iə*)	*i, y, iy, ī*
wē : wō	—	*ū* (< *uə*)	*u, w, uw, ū*
rē : rō	—	*r̥̄* (< *r̥ə*)	*r̥, r, r̥r, r̥̄*
etc.			

61. Ablaut in Sanskrit

The quantitative ablaut is best represented in Skt. But the qualitative ablaut is quite obscure here, since IE *a, e, o* became *a* in Skt, But the qualitative ablaut also can be detected from Skt, provided the preceding consonant was a velar which was palatalized in Skt when IE *e* followed; e.g. the alternation of *car-*: *kar-*, *carṣ-*: *karṣ-*, *jam-*: *gam-*, *jal-*; *gal-*, *han-*: *ghan-* clearly shows that the original IE vowel of *car* etc. is *e* and of *kar* etc. is *o*.

The quantitative ablaut has already been described by Skt grammarians several centuries before Christ. The strong grade is termed as *guṇa* and the long grade as *vṛddhi*. The term *samprasāraṇa* is used for the weak grade forms where *ya, va, ra, la* have become *i, u, ṛ, ḷ*.

Skt has clearly maintained the morphological role of ablaut. In declension of certain nouns nominative has strong grade whereas genitive the weak grade; in some others the nom has long grade and the gen has weak grade and in some the nom has weak grade and the gen has strong grade. In verbs some present classes show strong grade in sg and weak grade in pl etc.

Skt has inherited from IE the power of creating new words merely by ablaut distinction. Thus *śiva-* 'lord Śiva' : *śaiva-* 'a follower of Śaiva-cult', *putra-* 'son' : *pautra-* 'grandson' (= son's son). But in course of time some innovations have also crept in into the Sanskrit ablaut-system. Skt *i* (< IE *ə*), which should have *ā* (< IE *ā/ē/ō*) in strong grade historically, sometimes shows *e* & *ai* in guṇa & vṛddhi forms due to influence of similar ablaut gradation of Skt *i* (< IE *i*); e.g. Skt *pitā* (< IE *pətēr*) : Skt *paitṛka-*, *diti-* (< IE *dəti-*) : *daitya-* etc. Sometimes also Skt *ĭr/ŭr* (< Ir *ṛr/ṝ, ḷl/ḹ*), which should have *ar/ra* and *ār/rā* in strong and long grades respectively, often show *er/or* and *air/aur* in strong and long grades respectively, due to influence of other forms of *ir/ur* (< IE *ir/ur*), e.g. Skt *dīrgha-*

(< IE *d̥̄gho–*) : *dairghya–* (beside the regular ablaut form *drāghimā* < IE *dlēgh–*), *guru* (< IE *gʷr̥ru–*) : *gaurava* (for **gārava–* cp MIA *gārava*), *puru–* (< IE *pl̥lu–*) : *paurava–* etc.

EXAMPES OF ABLAUT from different series

62. IE *a* series

	strong grade	long grade	weak grade: reduced grade	weak grade: zero grade
	a : *o*	*ā* : *ō*	(unaccented)*a* :	*nil*
IE	*aĝ* : *oĝ*	*āĝ* : *ōĝ*	*aĝ* :	*ĝ*
Gk	*ágō* : *ógmos*	*stratēgós* : *agōgḗ*	*epaktós*	
Skt	*ajāmi*	*ājiḥ*		*jman*
Av	*azāmi*			
Lat	*ago*	Lat *ambāges*		
IE	*swad* (:*swod*)	*swād* (: *swōd*)		IE *sud sūd*
Skt	*svadate*	*svāduḥ*		Av *hudəma-* 'sweet'
Gk	*hadéō* 'I please'	Gk (Dor) *hādús*		
		Lat *suāvis*		
		OSC *swōti*		Goth *sūtists*

	strong	long	weak: reduced	weak: zero
IE	*yaĝ* (: *yoĝ*)	*yāĝ* (: *yōĝ*)		*iĝ*
Skt	*yajāmi*	Skt *yājayāmi*		Skt *iṣṭaḥ*
	yajñaḥ			
Av	*yazāmi*			
	yasnō			
Gk	*házomai*			
	hagnós			
IE	*mad* (: *mod*)	*mād* (: *mōd*)	*mad*	(: *m̥d*)
Skt	*madāmi*	Skt *un-mādaḥ*	Skt *mattaḥ*	
Gk	*madáō*			
Lat	*madeo*			

strong	long	weak: reduced	weak: zero
IE *nas* (: *nos*)	*nās* (: *nōs*)	*nas*	(: *n̥s*)
Skt *nás–*	Skt *nāsā*	(Skt *nasā́*)	
OHG *nas-a*	Skt *nāsikā*		
OCSl *nosŭ*	Lat (pl) *nārēs*		
	Av & OP *nāh-*		
IE *aidh*	*āidh*	*idh*	*īdh*
Skt *edhaḥ*	Skt *aidham* 'flame'	Skt *iddhaḥ*	*samīdh-*
Gk *aîthos*		Gk *itharós*	
Lat *aedēs*			
OIrish *aed*			
IE *(s)tai*	*(s)tāi*	*(s)ti-*	
Skt *stenaḥ*	Skt *(s)tāyuḥ*		
(Ht *tayetsi* ?)	Gk (Dor) *tā́taō*		
	Ht *tayetsi*		
	OCS *tajŭ*		
IE *aug*	*āug*	*ug*	
Skt *ojaḥ*	Skt *aujasaḥ*, *aujasyaḥ*	Skt *ugraḥ*	
Av *aojō*			
Lat *augeo*			
Gk *auksánō*			
OIrish *ōg*			
Lith *áugu*			
IE *dau*	IE *dāu*	IE *du*	*dū* *duw*
Skt *davaḥ*	Skt *dāvaḥ*	Skt *dūyate*	
Gk *dàos*	Gk *aēdēe*	Skt *dūnoti*	Gk *duḗ*
IE *saus*	IE *sāus*	IE *sus*	
Skt *śoṣaḥ*	Skt *śauṣyaḥ*	Skt *śuṣkaḥ*	
Av *haoš-*		Av *huško*	
Gk *aûos*, *haûos*		OP *(h)uška*	
Lith *sausas*			
OCS *suchŭ*			
OHG *sōrēn*			
OE *sēar*			

63. IE *e* series

	strong grade	long grade	weak grade: reduced	weak grade: zero
	e : *o*	*ē* : *ō*	(*e*) :	NIL
IE	*pet* : *pot*	*pēt* : *pōt*	*pet* :	*pt*
Skt	*patati*	Skt *pātayati*	Skt *patita-*	Skt *apaptat*
Gk	*pétòmai* : *patéomai*	Gk *pōtaomai*		Gk *eptómen*
Av	*pataiti*			Av *ptat*
Ht	*petatsi*			
IE	*ped* : *pod*	*pēd* ; *pōd*	*ped* :	*pd* (<*bd*)
	Skt *padi*	Skt *pāt*		Skt *upa-bd-a-*
Lat	*pede* : Gk *podí*	Lat *pēs* : Gk (Dor) *pṓs*		Gk *epí-bda*
	Av *paδō*	Av *pāδave*		Av *fra-bda-*
IE	*ĝenu* : IE *ĝonu*	IE *ĝēnu* : IE *ĝōnu*	(IE *ĝenu*) :	IE *ĝnu*
Lat	*genu* Gk *gónu*	Skt *jānu* Gk *gōnía* 'corner, angle'		Skt *jñu-*, Gk *gnúks*
				Av *āχšnu-*
IE	*owei-* : *owoi-*	*owēi-* : *owōi-*	*owi-*, *owy-* *owiy*	
	Skt *aveḥ*	Skt (Vd) *agnā*(=**agnai*)	Skt *aviḥ avyoḥ*	
	Av *garōiš*		Av *gairiš*	
Gk	*póleos* Goth *anstáis*	Gk *pólēi*	Gk *óis*	Gk *óios*
IE	*bheudh* : *bhoudh*	*bhēudh* : *bhōudh*	*bhudh*	
Skt	*bodhate* *bubodha*	Skt *bauddha*	Skt *buddhaḥ*	
Gk	*peúthetai* Goth *bauþ*			

strong grade	long grade	weak grade: reduced	weak grade: zero
IE *bheu* : *bhou*	*bhēu* : *bhōu*	*bhu*, *bhū*, *bhw*, *bhuw*	
Skt *bhavati*	Skt *bhāvaḥ*	Skt *prabhu-*, *bhūtaḥ*, *abhva-*, *bhuvanam*	
Av *bavaiti*		Gk *phúsis*, *éphū*	*phúō*
OP *bavatiy*		Lith *búti*	
		OCS *byti*	
IE *bher* : *bhor*	*bhēr* : *bhōr*	*bhr̥* *bhr̥̄*	*bhr* *bhr̥r*
Skt *bharati*	Skt *abhārṣam* *babhāra*	Skt *bhr̥taḥ*	Skt *babhruḥ* Skt *jarbhurāṇaḥ*
Av *baraiti*		Av *bərətō*	Gk *díphros* Gk (Loc) *phárō*
OP *baratiy*			
Gk *phérei* *phóros*	Gk *phṓr*	Gk *phortos* (<* *phōrtos*)	
IE *ter* : *tor*	*tēr* : *tōr*	*tr̥* *tr̥̄*	*tr* *tr̥r*
Skt *pitaram*	Skt *pitā*	Skt *pitr̥ṣu*	Skt *pitrā* Skt *pituḥ*
Gk *patéra* *eupátora*	Gk *patḗr* *eupátōr*	Gk *patrási*	Gk *patrōn*
IE *gʷhen* : *gʷhon*	*gʷhēn* : *gʷhōn*	*gʷhn̥* *gʷhn̥̄*	*gʷhn* *gʷhn̥n*
Skt *hanti* *ghanaḥ*	*ahānīt* *jaghāna*	*hataḥ* *ghātaḥ*	*ghnanti*
Av *jainti*		Av *jatō*	Av *ni-γn-e*
Gk *theínō* *phónos*		Gk *phatós* *thnātós*	*thánatos*
Ht *gwentsi*			Ht *gunantsi* (<**gnantsi*)

	strong grade	long grade	weak grade: reduced	weak grade: zero
IE	*men* : *mon*	*mēn* : *mōn*	*mn̥*	*mn*
Skt	*manaḥ*	Skt *mānaḥ*	Skt *mataḥ*	Skt *sumna-*
Gk	*ménos* Lat *moneo* Gk *mémona*	Gk *mênis*	Gk *-matos*	Gk *mímnō*
IE	*gʷem* : *gʷom*	*gʷēm* : *gʷōm*	*gʷm̥* *gʷm̥̄* *gʷm*	*gʷm̥m*
Skt	*jamad-agniḥ gamana-*	*jāmadagnyaḥ gāmī*	*gataḥ agāt jagmuḥ*	
gAv	*jamaiti*		Gk *batós ébē* gAv *aibigəmən*	
Lat	*venio*		Lat *ventus*	Gk *baínō*

64. IE *o* series

	strong grade	long grade	weak grade: reduced	weak grade: zero
	o	*ō*	(*o*) :	*nil*
IE	*owis*	—	—	
Skt	*aviḥ*			
Gk	*óis*			
Lat	*ovis*			

strong grade	long grade	weak grade reduced	zero
IE *oq*^{w}	*ōq*^{w}		—
Gk *ópsis*	Gk *óp-ōpe*		
Lat *oculus*			
Lith *akìs*			
OCS *oko*			
IE *g*^{w}*ou*	*g*^{w}*ōu*	*g*^{w}*u*, *g*^{w}*w*	
Skt *goḥ*	Skt *gāvaḥ*	Skt *dvigu-*	*navagva-*
Av *gaoš*	Av *gāvō*		
Gk *boós*	Gk *boûs* (<* *bōus*)		Gk *he-katóm-bē*

65. IE *ā* series

strong grade	weak grade reduced	zero
IE *ā* : *ō*	*ə*	*nil*
IE *sthā*	*sthə*	*sth*
Skt *sthāna-*	Skt *sthitaḥ*	Skt *tasthuḥ*
Av *stāna-*	Goth *staþs*	
Gk *hístāmi*	Gk *statós*	
Lat *stāre*	Lat *status*	
Ht *titami*		Ht *titeyants*
IE *bhā* : *bhō*	*bhə*	*bh*
Skt *bhāmi*		*bhaḥ* 'star'
Gk *phāmí* (Dor) : *phōnḗ*	*phamèn*	
Lat *fāma*		

66. IE ē series

	strong grade	weak grade	
		reduced	zero
IE	ē : ō	ə :	nil
IE	*dhē : dhō*	*dhə* :	*dh*
Skt	*dadhāmi dhāman-*	*hitaḥ*	*dhatte*
Av	*dadāmi dāman-*		
Gk	*tithēmi thōmós*	*thetós* (<* *thatós*)	
Ht	*deḫi*		*tsketsi* (*tsk-* <*dh-sk-*)
Goth	*gadēþs dōms*		
Lith	*dė́ti*		
OCS	*dě́ti*		
IE	*ēp* (: *ōp*)	*əp* :	*p*
Skt	*āpnoti*	*īpsati*	
Lat	*co-ēpi*		
Ht	*eptsi*	*apantsi*	

67. IE ō series

IE	ō	ə	*nil*
IE	*dō*	*də*	*d*
Skt	*dadāmi*	*ditiḥ*	*datte*
Gk	*didōmi*	Gk *dános*	
Lat	*donum*	Lat *datus*	
Ht	*daḫi*	Ht *dantsi*	
Lith	*dů́ti*	Lith *dů́ste*	
OCS	*dati*	OCS *daste*	

PART THREE

Phonology—Consonants

CHPATER IX

The Consonants in IE, IIr & Skt

68. The IE Consonants

(Same as 22-(1)-B)

(1) gutturals

(a) palatals *k̂, k̂h, ĝ, ĝh, (n̂)*
(b) velars *q, qh, g, gh, (η)*
(c) labio-velars q^w, q^wh, g^w, g^wh, *(η)*

(2) dentals *t, th, d, dh, (n)*

(3) labials *p, ph, b, bh, (m)*

(4) semi-vowels *y, w*

(5) liquids *r, l*

(6) nasals *m, n, n̂, η*

(7) spirants *s, z, θ, δ*

69. The IIr Consonants

(same as 22-(2)-B)

(1) velars *k, kh, g, gh, (η)*

(2) palatals *c, ch, j, jh, (ñ)*

(3) dentals *t, th, d, dh, (n)*

(4) labials *p, ph, b, bh, (m)*

(5) semi-vowels *y, v*

(6) liquid *r*

(7) nasals *m, n, ñ, η*

(8) spirants *s, š, ṣ̌, šh*
z, ž, ẓ̌, žh

The IE consonants have been faithfully retained in IIr. But IIr has the following **deviations** from IE.

(1) IE *k̂*, *k̂h*, *ĝ*, *ĝh* > IIr *š*, *šh*, *ž*, *žh*

(2) IE *s*, *z* > IIr *ṣ̌*, *ẓ̌* after *i*, *u* etc.

(3) IE *r*, *l* > IIr *r* (but again Skt *r*, *l*)

(4) IIr developed *c*, *ch*, *j*, *jh* < Ir *q*/*q*^{w}, *qh*/*q*^{w}*h*, *g*/*g*^{w}, *gh*/*g*^{w}*h*, when followed by palatal vowels.

70. Skt shows the following **consonants** (as cited above in 22- (3)-B)

(1) velars *k*, *kh*, *g*, *gh*, (*ṅ*)

(2) palatals *c*, *ch*, *j*, *jh*, (*ñ*)

(3) cerebrals *ṭ*, *ṭh*, *ḍ*, *ḍh*, *ṇ*

(4) dentals *t*, *th*, *d*, *dh*, *n*

(5) labials *p*, *ph*, *b*, *bh*, *m*

(6) semi-vowels *y*, *v*

(7) liquids *r*, *l*

(8) nasals *ṅ*, *ñ*, *ṇ*, *n*, *m* & *ṃ* (nasalization)

(9) spirants *ś*, *ṣ*, *s*

(10) aspirations *h* & *ḥ*

The five-stop-system of IE and IIr has been quite faithfully retained in Skt. But the following **deviations** are noteworthy.

(a) Skt has developed some cerebral sounds which are not found in any other IE language, including Iranian.

(b) IIr *šh*, *ž*, *žh* have become *ch*, *j*, *h* in Skt.

(c) Skt has lost IIr *z* & *ẓ̌*.

(d) Skt has developed *l* out of IIr *r*, as a result of which IE *r* & *l* are confused in Skt.

(e) If two aspirates occurred in consecutive syllables one of them was de-aspirated in Skt.

71. The Laryngeal Theory

Many scholars would add a few additional consonants in IE, termed laryngeals. The Laryngeal theory is based mainly on internal reconstruction and on some doubtful as well as partial evidence in Hittite. I have shown elsewhere, that this theory is practically of no help to IE comparative grammar (Vide Misra : Laryngeal Theory). Since the theory is quite popular amongst a large section of scholars it may briefly be presented here.

Early IE (=EIE) had four laryngeal consonants ; H_1, H_2, H_3 & H_4. H_1,H_2 & H_3 were voiceless and H_4 was voiced Only H_3 & H_4 were retained in Hittite as *ḫḫ* & *ḫ* respectively and H_1 & H_3 were lost even in Hittite. All these four are lost in all other IE languages and they were lost in late IE (=LIE) after the separation of Hittite. Late IE had the following sound-changes after the loss of laryngeals.

(1) EIE eH_2 or $eH_4 >$ LIE *ē* and Ht *e*($< eH_3$) & *eḫ* ($< eH_4$); e. g.

EIE $eH_2s >$ $<$IE *ēs*, cp Skt *āste*, Gk *hêstai*, Ht *estsi.*

EIE $eH_2p >$ LIE *ēp*, cp Skt *āpnoti*, OLat *coēpi*, Ht *eptsi.*

EIE $meH_4 >$ LIE *mē*, cp Skt *mā* 'measure', Gk *mêtis* 'skill', Goth *mēl 'time'* Ht *meḫur* 'time.'

EIE $seH_4 >$ LIE *sē*, cp Lat *sēmen* 'seed' Lith *semę* 'seed', Ht *seḫur* 'urine'.

It may be noted that Hittite evidence is partial since for change of *eH* $>$ *e* Ht shows only H_4 and scholars have invented H_3 merely to fill up the gap. Direct reconstruction of *ē* in IE solves the problem. Ht also needs reconstruction of *ē in* EIE to explain the change of *t* $>$ *ts* before *ē*.

(2) EIE H_1e or $H_3e >$ LIE *ā* and Ht *a* ($< H_1e$) & *ḫa* ($< H_3e$); e. g.

EIE $H_1epo >$ LIE *apo*, cp Skt *apa*, Gk *apó*, Ht *apa.*

EIE $H_3enti >$ LIE *anti*, cp Skt *anti*, Gk *antí*, Ht *ḫanti.*

EIE $H_3er\hat{g} >$ LIE *arĝ*, Skt *arjunaḥ*, Ht *ḫargis.*

Here also Hittite evidence is partial since it is available for cases with H_3 & not for the cases with H_1. Direct reconstruction of *a* in IE saves the anomaly.

(3) EIE eH_1 or eH_3 > LIE *ā* and Ht *a* (<eH_1) & *aḫḫ* (<eH_3).

EIE (*s*)*te*H_1 > LIE (*s*)*tā*, cp Skt *sthā-*, Gk *stā-*, Lat *stā*, Ht *ta-* (*titami*)

EIE *pe*H_3 > LIE *pā*, cp Skt *pā*, Lat *pāscō*, Ht *paḫḫasmi*.

Here also Ht evidence is attested for cases with H_3, and H_1 is employed to fill up the gap, where Ht has no evidence.

Moreover the assumptions H_1e/H_3e > *a* and eH_1/eH_3 > *ā* cannot account for the ablaut variation of *a* & *ā* from a root which shows *a* in some derivatives and *ā* in others.

(4) EIE H_1, H_2 & H_3 aspirated a preceding voiceless stop & H_4 aspirated a preceding voiced stop in LIE.

Hittite evidence is very poor for these explanations also. For voiceless stops most of the forms need reconstruction of H_1 & H_2 since Ht evidence is not available. For voiced stops Ht always shows H_4 when another IE language shows a voiced aspirate, but Ht in fact is sometimes silent here as well. e. g. Skt *aham* (<IE *eĝhom*), but Ht shows *ug* & not *ugḫ* or *ugḫa* or the like.

Many scholars consider this part of the Laryngeal theory to be useful in explaining the problematic cognates where one IE language presents an aspirate and another a non-aspirate. But actually the Laryngeal theory fails to explain any such form without deriving addtional help from analogy or generalization (vide Misra : Laryngeal Theory, A Critical Evaluation pp 25–29).

The problematic cognates can be explained otherwise (vide below 72 & 73).

72. The Voiceless Aspirates

IE voiceless aspirates are most explicitly represented only in Skt. Gk also retains IE voiceless aspirates, but has lost the contrast with IE voiced aspirates, since these also have become voiceless aspirates in Gk. In most other languages the voiceless aspirates have merged with the voiceless non-aspirates, and thus have lost the contrast; such languages are Celtic, Germanic, Balto-Slavic and. Hittite In Italic they show the same treatment with the voiced aspirates.

There are some cases where Skt shows a voiceless aspirate and Gk shows a voiceless non aspirate. These cases are problematic but they are few. Some of such apparently similar forms may not be cognates, but there are some which must be related. A few of them may be considered here. (For further details vide Misra : New lights on IE Comp. Grammar pp. 53-56).

(a) Primary ending Skt *-the* : Gk *-te*. Gk *-te* is extended from secondary ending *-te*. In many other cases also Gk extends secondary endings to primary conjugation.

(b) Skt *tiṣṭhāmi* : Gk (Dor) *hístāmi*. Gk *hístāmi* might have developed out of *hísthāmi* by dissimilatory influence of initial *h-* (vide CGSGH 73 for alternative explanation).

(c) Skt *gacchāmi* : Gk *baskō*. Although Skt *cch* represents IE *sk̂h*, it also represents IE *sk̂* in many cases. IE *sk̂* & *sk̂h* have fallen together in Skt.

(d) Skt *-iṣṭtha-* & Gk *-isto-* are superlative suffixes. They show combination of two different IE suffixes. IE *is* (<*yes*)+ *tho*>Skt *iṣṭha* and IE *is*+*to*>Gk *isto*. Similar variation is found with Skt *tama* (<IE *tm̥-mo-*) & Gk *tato* (<IE *tm̥-to-*)

(e) Skt *pr̥thuḥ* & Gk *platús* have two different IE suffixes IE *thu* & *tu* respectively.

73. IE Voiced Aspirates

These were more frequent in IE than the voiceless aspirates. But no IE language except Sanskrit retains the voiced

aspirates. These have fallen together with the voiceless aspirates in Gk. In several other languages they have been deaspirated. But still there is no doubt or controversy that they were voiced aspirates in IE. There are a few words, where cognate forms in some IE languages demand aspirates, whereas others need reconstruction of non-aspirates in IE. In such cases the double forms with aspirates and non-aspirates might have developed in IE due to contamination and analogical modifications out of single original forms. To take for example.

IE *eĝhom* and *eĝom* are to be reconstructed for Skt *aham* and Gk *egṓn* respectively. Probably IE *eĝom* was the original form and IE *eĝhom* developed aspiration due to influence of IE *meĝhi* (cp Skt *mahyam* and Lat *mihi*). Similarly IE *meĝh-* and *meĝ* are to be reconstructed for Skt *mahān* and Gk *méga* respectively. Probably *meĝ* was original and *meĝh* developed aspiration due to influence at IE *bhr̥ĝh-* (cp. Skt *br̥hat*).

(Vide Misra, New Lights an IE Comp Grammar pp. 51-53 for more examples and detailed discussions.)

74. IE Conjuncts in Sanskrit

The following IE conjuncts resulted from several combinations in the proto-IE stage. Normally IE shows regressive assimilation. A preceding voiceless stop or sibilant became voiced due to the influence of a following voiced stop or sibilant. Similarly also a preceding voiced stop or sibilant became voiceless due to the influence of a following voiceless stop or sibilant.

Progressive assimilation is also noted in some of the IE dialects, in cases where a voiced aspirate was followed by *t* or *s*. The progressive assimilation in cases of voiced aspirates followed by *t* must be assumed for Indo-Iranian at least, and in cases of voiced aspirates followed by *s* for Old Iranian. But there are also exceptional cases, where these languages present the normal regressive assimilation. Therefore it is better to

assume that IE could have both progressive and regressive assimilations. Individual dialects had option of generalisation in such cases as a result of which sporadic forms with regressive assimilation may be found in a dialect, which has generalized the progressive assimilation and vice versa.

The following combinations may be noted.

(a) IE $\hat{k}s < \hat{k}/\hat{g}/\hat{g}h + s$; $qs < q/g/gh + s$; $q^{w}s < q^{w}/g^{w}/g^{w}h + s$; $ts < t/d/dh + s$; $ps < p/b/bh + s$.

(b) IE $\hat{k}t < \hat{k}/\hat{g}/\hat{g}h + t$; $qt < q/g/gh + t$; $q^{w}t < q^{w}/g^{w}/g^{w}h + t$; $tt < t/d/dh + t$; $pt < p/b/bh + t$.

(c) IE voiced aspirates, when followed by *t or s*, besides having the regressive assimilation (as given in (a) & (b) above), had the following progressive assimilations dialectally or optionally.

(i) IE voiced aspirates $+t >$ voiced aspirate $+d >$ voiced non-aspirate $+dh$, by shift of aspiration to the final stop; thus dialectally :—IE $\hat{g}dh < \hat{g}h\text{-}d < \hat{g}h\text{-}t$; IE $gdh < gh\text{-}d < gh\text{-}t$; IE $g^{w}dh < g^{w}h\text{-}d < g^{w}h\text{-}t$; IE $ddh < dh\text{-}d < dh\text{-}t$; IE $bdh < bh\text{-}d < bh\text{-}t$. This is quite frequent in IIr and consequently in Skt and Old Iranian. Av & OP show some exceptions which are continuations of the other dialectal or optional forms, with regressive assimilation.

(ii) IE voiced aspirate $+s >$ voiced aspirate $+z$. Thus dialectally :- IE $\hat{g}hz < \hat{g}h\text{-}s$; $ghz < gh\text{-}s$; $g^{w}hz < g^{w}h\text{-}s$; $dhz < dh\text{-}s$, $bhz < bh\text{-}s$. (Some would assume $\hat{g}zh$ etc. instead of $\hat{g}hz$ etc but this is not supported by evidence nor helpful for any special explanation.) This development is almost restricted to Old Iranian, which also retains cases of regressive assimilation.

(d) IE $\hat{g}bh < \hat{k}/\hat{g}/\hat{g}h + bh$; IE $gbh < q/g/gh + bh$; IE $g^{w}bh < q^{w}/g^{w}/g^{w}h + bh$; IE $dbh < t/d/dh + bh$; IE $bbh < p/b/bh + bh$.

(e) IE $\hat{g}d < \hat{k}/\hat{g} + d$; IE $gd < q/g + d$; IE $g^{w}d < q^{w}/g^{w} + d$; IE $dd < t/d + d$; IE $bd < p/b + d$.

(f) IE *ĝdh* < *k̂/ĝ/ĝh+dh* (also dialectally < *ĝh+t*); IE g^w*dh* < q^w/g^w/g^w*h+dh* (also dlct < g^w*h+t*; IE *ddh* < *t/d/dh+dh* (also dlct < *dh+t*); IE *bdh* < *p/b/bh+dh* (also dlct < *bh+t*);

(g) A sibilant often developed as a glide between two dentals optionally. Thus optionally IE *tt* > *tst* > *st*, *th* > *tsth* > *sth*; IE *dd* > *dzd* > *zd*; IE *ddh* > *dzdh* > *zdh*. Therefore IE dialectal double forms like *tt* : *st*, *tth* : *sth*, *dd* : *zd* and *ddh* : *zdh* are attested in the historical languages.

(h) Perhaps also a dental stop developed optionally between IE *zbh*, *ĝbh* and *bbh*; Thus optionally *zbh* > *zddh* > *dbh*; *ĝbh* > *ĝdbh* > *dbh*; *bbh* > *bdbh* > *dbh*. And it is also less probable that IE *k̂s* > *k̂ts*, i.e. with the development of a dental stop as a glide, But Since Skt shows these types of formations, these might have developed at the proto Sanskrit stage, as well. But such phonetic developments in the IE stage cannot be altogether ruled out.

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Chapter X

IE Guttural Series

75. IE Guttural Series in Skt

The IE languages present certain cognates, where a particular sound is represented by a velar in some languages and by a non-velar in others. In very few cases, however, IE shows velars uniformly in all the branches. The cases where velars and non-velars correspond have also a very systematic correspondence and may broadly be classified under two heads : (i) In some cases some languages (the Centum languages) show velars and others (the Satəm languages) show either spirants or affricates. In these cases it has been assumed that the parent speech had palatals. (ii) In some cognates the Satəm languages show velars, but the Centum languages have two different developments. They show labials or conjuncts of a velar and a *w* sound. In these cases it has been assumed that the parent speech had labio-velars. To be precise, it has been assumed, for convenience of phonetic interpretation, that the IE parent language had three different types of velar sounds : (i) pure velar, represented as velars in all, (ii) palatals or palatalized velars, represented as velars in Centum and as spirants or affricates in Satəm (iii) labio-velars or labialized velars represented as velars in Satəm, but as labials or velars followed by a *w* in Centum.

These three types of velar sounds taken together are called as gutturals, simply for reserving the term velar for the various types of gutturals, viz., pure velar, labio velar etc. These three series are also linked, in a sense that each individual language presents only two out of the three guttural series of IE, because the pure velars have merged with the palatals in

Centum and with the labio-velars in Satəm. It should also be noted that in many cases individual languages sometimes present velars, when non-velars are expected. Such cases come under exceptions, several of which have already been suitably explained, but there are still a few others the explanations of which are in the womb of future. Gk *lúkos* (<IE *wl̥q^wos*) for *lupos*, shows *k* for *p* as *u* precedes; Goth *wulfs* for *wulƕs* shows *f* for *ƕ* as there is assimilatory effect of the preceding *w*. Skt *dik* for *diś* has *k* instead of *ś* as *dik* <IE *dik̂s* and *k̂s*> *kṣ* in Skt. Skt *yāga* for *yāja* and *sarga* for *sarja* are analogical formations (82). Such exceptional cases are almost suitably explained. But forms like Lith *akmů̑* stone (cp Skt *'aśman'* Gk *ákmōn*), OCS *svekrŭ* (cp Skt *śvaśuraḥ*, Gk *hekurós* etc) lack final explanations. (Vide Misra : New lights on IE Comp Grammar p. 46 for probable explanations).

75 a. The following tables illustrate the development of IE gutturals in individual branches.

Satəm languages

IE	Satəm	IIr	Skt	Av	OP	OCS	Lith	Arm	Alb
k̂	*š*	*š*	*ś, ṣ, k*	*s, š*	*θ*	*s*	*sz(=š)*	*s*	*θ,s*
ĝ	*ž*	*ž*	*j,*ẓ,(g)*	*z, ž*	*δ*	*z*	*ž*	*c*	*δ,z*
ĝh	*žh*	*žh*	*h*	*z, ž*	*δ*	*z*	*ž*	*j,z*	*δ, z*
q q^w	*k*	*k, c*	*k,c*	*k, c*	*k,c*	*k, č, c*	*k*	*k(*k^c*), č̣, g*	*k*
g g^w	*g*	*g,j*	*g,j*	*g,j*	*g,j*	*g,dž,dz*	*g*	*k*	*g*
gh g^wh	*gh*	*gh,jh*	*gh,h*	*g,j*	*g,j*	*g,dž.dz*	*g*	*g,ǰ,ž*	*g*

Centum languages

IE	Centum	Gk	Lat	OIrish	Brit	Germanic	Hittite
k̂ q	*k*	*k*	*c*	*c*	*c*	*k,χ,γ,g*	*k*
ĝ g	*g*	*g*	*g*	*g*	*g*	*k*	*g*
ĝh gh	*gh*	*kh*	*h,g*	*g*	*g*	*γ,g*	*g*
q^w	*kw,p*	*p,t,k*	*qu,c*	*c*	*p*	*χw,w,χ,γ,f, β*	*kw*
g^w	*gw, b*	*b,d,g*	*v, gu, g*	*b,g*	*b,g*	*kw, k, p*	*gw*
g^wh	*ghw, bh*	*ph,th,kh*	*f,u,gu,v*	*b,g*	*b,g*	*w,γ,β*	*gw*

76. IE Palatals and IIr Palatals in Skt

IE palatal stops $\hat{k}$, $\hat{g}$, $\hat{g}h$ became $\check{s}$, $\check{z}$, $\check{z}h$ in satəm[1] and IIr and these became *ś*, *j*, *h* in Skt, *s*, *z*, *z* in Av and θ, δ, δ (> θ, *d*, *d*) in OP (Vide 75 a).

There was a palatalization in the IIr stage, which is also found in OCS but not in Lithuanian. Proto-Satəm *k*, *g*, *gh* (< IE q/q^w, g/g^w, gh/g^wh) > *c*, *j*, *jh* in IIr, when they were followed by palatal vowels $\breve{\bar{i}}$, $\breve{\bar{e}}$. These IIr *c*, *j*, *jh* became *c*, *j*, *h* in Skt and *c*, *j*, *j* in Av & OP.

As a result of this change a Skt *j* may come from IE $\hat{g}$ or from IE g/g^w followed by a palatal vowel. Similarly a Skt *h* may be from IE $\hat{g}h$ or from IE gh/g^wh followed by a palatal vowel. But the distinction is more clear in Old Iranian, because IE $\hat{g}$, $\hat{g}h$ have become *z* in Av and δ (> d) in OP and IE *g*, *gh*, g^w, g^wh (followed by palatal vowels) have become *j* in both

1 Development IE $\hat{k}$, $\hat{g}$, $\hat{g}h$ into $\check{s}$, $\check{z}$, $\check{z}h$ in Satəm has been considered by many scholars as First Palatalization. This is a blunder. Burrow who is famous for such erroneous expositions, has called the palatalization in IIr (with change of *k* > *c* etc) as second palatalization. I have explained in other works (NLIECG p. 42 etc) that the name palatal in IE has been used for this series $\hat{k}$ etc to show that they are also a class of Gutturals. This term is a synonym in Greek Grammar for velar. It has nothing to do with the palatals in phonetics, where as in change of *k* > *c*, palatalization has a phonetic sense. Besides where is palatalization in change of a velar to a sibilant ? Secondly, how can a palatal be palatalized ?

Further research now opens door for rethinking that Sanskrit *ś* etc. might be showing original IE sounds. The allophonic distribution of *ś* : *k* in Skt was disturbed in other IE languages. But since the present work is more or less of a text book type, the highly accepted reconstructed material is not disturbed here.

Av and OP. But in several cases late phonetic changes and analogy have disturbed the normal phonetic picture. In medial position younger Av may sometimes show a *ž* for an expected *j*; e. g. *ažiš* for *ajiš* cp Skt *ahiḥ* Gk *óphis* <IE *og^whis*. Skt also sometimes shows *g*< IE *ĝ*, in analogy with *g/j* < IE *g/g^w* or *k*<IE *k̂* etc. Such cases are found in *sarga-* <IE *serĝo-*, and *yāga-* <IE *yāĝo-* etc. Therefore although Av & OP help us to ascertain IE palatal *ĝ*, *ĝh*, more than Skt, yet the Iranian evidence is sometimes deceptive. Balto-Slavic, which has additional support for ascertaining IE palatals, also sometimes presents pure velars instead of spirants (75).

Therefore IE palatals can be ascertained often by a thorough study of the examples from all the Satəm languages.

But internal evidence from Skt is also often quite helpful; e. g. √*sr̥j* and *sarga-* etc. may put a doubt for the IE sound, whether it was *ĝ*, *g*, or *g^w* but Skt *sr̥ṣṭa-* (< √*sr̥j*) must be derived from IE *sr̥k̂to* (<IE *sr̥ĝ-to-*), hence Skt *sarga-* cannot be original. Similarly Skt *yāga-* cannot be original, because *yaj* comes from IE *yaĝ* cp *iṣṭa-* <IE *ik̂to-* <IE *iĝ–to* (cp Skt *yukta* <*yuj*+*ta* which comes from IE *yuqto-*<*yug*+*to-*).

Still there remain quite a few words, which, though seem to be related, may come from different roots. e. g. *śram* (<IE *k̂lem*) and *klam* (<IE *qlem-*); *luk/luc* (<IE *luq*) *and ruś* (<IE *luk̂*) etc, So also Skt *nakt-* & *niś*. etc. (Vide New Lights on IE Comp Grammar p. 45–46 for details).

76a. Exceptions to Palatalization

(1) Sometimes Skt shows velars (*k*, *g*, *gh*), where palatals (*c*, *j*, *h*) are expected, due to analogical influence of related forms, e.g. Skt *kiḥ*, *kim* for *ciḥ*, *cim* due to influence of *kaḥ* (<IE *q^wos*); *vākya* (besides *vācya*) after *vāk* (<IE *wōq^ws*); *gītaḥ* after *gāyati*; *drāghiṣṭhas* (cp Av *drājištō*) and *drāghimā* after *dīrghaḥ* (<IE *dl̥̄ghos*).

(2) Sometimes Skt shows palatals (*c*, *j*, *h*) for velars (*k*, *g*, *gh*) due to influence of other similar forms or formations. Thus Skt *cukopa* for **kukopa* after *cakāra* etc; *jugopa* for **gugopa* after *jagāda* etc; *duhrate* for *dughrate* after *duhote* etc.

Skt *cukopa* and *jugopa* etc also may be new formations in the IIr stage for earlier **cakopa* and **jagopa* etc, if *–u–*is not accepted as an original reduplicating vowel.

There are some apparent exceptions which are actually regular forms. e.g. Skt *vacaḥ* (cp Gk *épos* <IE *weq*^{w}*os*), *rajaḥ* cp Gk *érebos* <IE *reg*^{w}*os*) etc. The Skt forms in such cases come form IE *–e* & not *-o*; e.g- Skt *vacaḥ* <IE *weq*^{w}*es* cp Av *vacō*; and *rajaḥ* <IE *reg*^{w}*es* cp Goth *riqis* cp Ht *nebes* (<IE *nebhes*) but Gk *néphos* (<IE *nebhos*). Similarly Skt *roga-* (*a*<IE *o*) & *ruja* (*a*<IE *e*); *yoga* (*a*<IE *o*) & *yuja* (*a* <IE *e*), *arka–* & *arca–*, *loka/roka-* and *roca-/loca–* etc.

Forms like Skt *kirati* (<IIr *kr̥rati*), *kīrṇa–* (<IIr *kr̥̄na-*), *girati* (<IIr *gr̥rati*), *gīrṇa–*<IIr*gr̥̄na–*) are not palatatized as IIr vowel was *r̥̄/r̥r* & or not *ī*.

77. IE *k̂*> IIr *š*> Skt *ś* (Av *š* OP *θ*) Gk *k* etc.

IE *k̂m̥tom*> IIr *šatam*> Skt *śatam*, Av *satəm*, OP *θata–*(*gu*), Lith *szim̃tas*, OCS *sŭto;* Gk *hekatón*, Lat *centum*, OIrish *cēt*, Goth *hund*, Tokh *känt*.

IE *dek̂m̥*> IIr *daša*> Skt *daśa*, Av *dasa*, Arm *tasn*, Lith *deszimts*, OCS *desetĭ*, Gk *déka*, Lat *decem*, Goth *taihun*, OIrish *deich n-*.

IE *weik̂*> IIr *vaiš* > Skt *veśma*, Av *vaesō*, OP *viθam*, Alb *vise*, Lith *vesz éti*, OCS *vĭsĭ*; Gk *oîkos*, Lat *vīcus*, Goth *weihs*.

IE *wek̂mi*> IIr *vašmi*> Skt *vaśmi* Av *vasəmi*, cp OP *vasaiy* 'much', Arm *vasn* 'on account of', Gk *hekṓn* 'willing', Ht *wekmi*.

78. IE *k̂t* > IIr *ṣ̌t* > Skt *ṣṭ* Av *št* (IE *k̂t* < IE *k̂/ĝ* + *t* 74 (b))

IE *wek̂ti* > IIr *vaṣ̌ti* > Skt *vaṣṭi*, Av *vašti*, Ht *wektsi* (cp Skt *vaśmi* < IE *wek̂mi* 77).

IE *ik̂tos* (√*yaĝ*) > IIr *iṣ̌tas* > Skt *iṣṭaḥ* cp Av *ištō* (cp IE *yaĝeti* > Skt *yajati* 82).

IE *dik̂ti-* (√*deik̂*) > IIr *diṣ̌ti-* > Skt *diṣṭi-*, cp Av *ādišti-*, OHG *in-ziht*.

IE *spek̂tos* > IIr *spaṣ̌tas* > Skt *spaṣṭaḥ*, Av *spaštō* Lat *sp ctus*.

IE *dr̥k̂tos* > IIr *dr̥ṣ̌tas* > Skt *dr̥ṣṭoḥ* Av *dərəštō*, OSax & OE *torht* 'clear'.

78a. IE *k̂th* > IIr *ṣ̌th* > Skt *ṣṭh*

IE *sek̂tho-* > Irr *saṣ̌tha-* > Skt *ṣaṣṭha-* Gk *héktos* (595).

79. IE *k̂s* > IIr *ṣ̌ṣ̌* > Skt *kṣ* Av *š* (IE *k̂s* < IE *k̂/ĝ/ĝh* + *s* 74(a))

IE *wek̂si* > IIr *vaṣ̌ṣ̌i* > Skt *vakṣi*, Av *vaši* (cp Skt *vaśmi* < IE *wek̂mi* 77).

IE *dik̂su* > IIr *diṣ̌ṣ̌u* > Skt *dikṣu*, (cp Skt *diśati* < IE *dik̂eti* cp Gk *díkei*; and cp Skt *deśaḥ* < IE *deik̂os* 49).

IE *yak̂syeti* > IIr *yaṣ̌ṣ̌yati* > Skt *yakṣyati* cp Skt *yajati* (< IE *yaĝeti* 82).

79a. Skt *kṣ* > *k* in a final position.

IE *dik̂s* > IIr *diṣ̌ṣ̌* > Skt *dik* (beside *dikṣu* < IE *dik̂su* 79).

79b. IE *k̂s* is sometimes found as ṭṣ (finally ṭ) in Skt This ṭ is perhaps an analogical development from *ḍ* found in the same words before *-bh* e.g. *k̂bh* > *ĝbh* > *ḍbh* (83) or a glidic development between IE *k̂s* > *k̂ts* > IIr *ṣ̌tṣ̌* > Skt ṭṣ (74 (h)) e.g.

IE *wēk̂-su* (loc pl)/*wēk̂-s* (nom sg) > IIr *vāṣ̌ṣ̌u*/*vāṣ̌ṣ̌* > Skt *vāṭṣu*/*vāṭ* (stem IE *wēĝh-* > Skt *vāh-*).

79c. IE final *k̂s* is represented by *ṅ* in some words in Skt. e. g. *sadr̥ṅ* (< IE *sm̥-dr̥k̂s*), beside regular *sadr̥k*; the *-ṅ* form

may be analagogical development after Nom sg of *-añc*-stems like *prāṅ* (**prāṅks* < IE *prōŋqʷs* cp Av *fras*) beside *prāk*.

79d. In some words final *k̂s* is presented by *-s*, instead of *k* or *ṭ* as given above. The final *-s* of *k̂s* seems to be strangely retained in these cases and the preceding *k̂*- is perhaps dropped. But analogical influence of other words may be responsible for this strange phenomenon. The examples are : *puroḍās* (Nom sg) (< IE *pr̥raz-dēk̂s*; cp Skt Acc sg *puroḍāśam*), *ayās* (Aor 2nd sg) (< IE *eyāk̂s*; Skt √*yaj*), *srās* (Aor 2nd sg) (< IE *srēk̂s*; Skt √*sr̥j*).

79e. IE *ĝh-s* > IE *k̂s* and had the same treatment as *k̂s* < IE *k̂*-s, *ĝ-s*; but Av shows the dialectal development where *ĝh-s* > *ĝh-z* e.g. Av *us-važat* < IE *weĝh-ze-t* beside IE *wek̂set* cp Skt *vakṣat* cp also Av *vašata* = Skt *avakṣata* < IE *(e)wek̂seto* √*weĝh*.

79f. IE *k̂bh* > *ĝbh* (74).

80. IE *k̂h* > IIr *šh* > (perhaps) *ch* in Skt

The exact development of IE *k̂h* in Skt is doubtful. IE *sk̂* and *sk̂h* fell together in Skt and became *cch*. One may assume that *k̂h* also became *ch* in Skt. IE *k̂* and *k̂h* (IIr *š* & *šh*) have fallen together in Av and have become *s*. Since IE *ĝ* & *ĝh* have become *j* and *jh* (> *h*) in Skt, it also not impossible that *k̂h* might have become *ch* in Skt. The surest example of *k̂h* becoming *ch* is actually that of IE *sk̂h* > *cch* in Skt; e.g.

IE *sk̂hid* > *chid-*, *cicheda*, *chinadmi* etc., Av *sid-*, Gk *skhíz(d)ō* (< IE *sk̂hidyō*), Lat *scindō*.

80a. IE *k̂h* > *ś in* Skt when another aspirate was in the next syllaole

IE *k̂hāqhā* > IIr *šhākhā* > Skt *śākhā* NP *sāχ*, Arm *ç̣aχ*, Alb *θekë*, Lith *szakà* Goth *hōha* (Armenian *ç̣* requires IE *k̂h* instead of *k̂* Vide Wackernagel 105 (a)).

81. IE *sk̂* & *sk̂h* > IIr *sš* & *sšh* > Skt *cch*, Av *s*, OP *s*. This *cch* became *ch* initially. It is quite clear that IE *sk̂* & *sk̂h* fell

together in Skt. Skt sandhi also shows that IE *s*+*k̂* (= Skt *s*+*ś*) became *cch* in Skt; e.g. *ducchunā* (<IE *dus-k̂unā* 'misfortune' beside *śunam* (<IE *k̂unom*), 'happiness'.

IE g^w*m̥sk̂eti*> IIr *gaššati*> Skt *gacchati*, Av *jasaiti*, Gk *báskei*.

81a. IE *k̂sk̂* also become *cch* in Skt. But IE *k̂sk̂*> *sk̂* perhaps in IE.

IE *pr̥k̂-sk̂eti*> IE *pr̥sk̂eti*> Skt *pr̥cchati*, Av *pərəsaiti*, OP *pr̥satiy*, Lat *poscet*, OHG *forsca*.

82. IE *ĝ*> IIr *ž*> Skt *j*

IE *ĝēnu*>IIr *žānu*>Skt *jānu*, Av *zanva* (pl), Gk *gónu*, Lat & Ht *genu*, Goth *kniu*, OHG *chniu*, OE *cnēo*, Arm *cunr*.

IE *ĝenos*>IIr *žanas*>Skt *janaḥ*, Av *zanō*, OP *dana* (also *zana*), Gk *génos*, Lat *genus*, Arm *cin* 'birth'.

IE *yaĝeti*>IIr *yažati*>Skt *yajati*, Av *yazaiti*, cp Gk *hágnos*.

IE *ĝeus*>IIr *žauṣ̌* > Skt *joṣaḥ*, Av *zaošō*, OP *dauštar-* 'friend', Gk *geúō*, Lat *gustus*, OIrish *to-gu* choice'.

82a. IE *ĝ*>Skt *g* by anomally.

IE *yāĝo-*>Skt *yāga-* beside *yāja-* and *iṣṭa-* etc.

IE *serĝo-*>Skt *sarga-* beside *sarjana*, and *sr̥ṣṭa-* etc.

This *g* in Skt is an analogical development after other roots which have *j*<*g*/g^w e.g. *bhaja-* : *bhāga-*, *yuja-* : *yoga-* etc.

83. IE *ĝbh*>IIr *ẓ̌bh*>Skt *ḍbh* (perhaps IE *ĝbh*>$\hat{g}^d$*bh*>IIr *ẓ̌dbh*>proto- Skt **ẓḍbh*>Skt *ḍbh*) (IE *k̂bh*>*k̂*/*ĝ*/*ĝh*+*bh* 74).

IE *wiĝbhis* (also *wi*$\hat{g}^d$*bhis*)>IIr *viẓ̌bhiṣ̌* (also *viẓ̌dbhiṣ̌*)>Skt *viḍbhiḥ*, cp Av *vīžibyō* (Skt stem *viś*<IE *wik̂*).

IE *wēĝbhis* (also *wē*$\hat{g}^d$*bhis*)>IIr *vāẓ̌bhiṣ̌* (also *vāẓ̌dbhiṣ̌*)> Skt *vāḍbhiḥ* (Skt stem *vāh-*<IE *wēĝh*.

83a. Sometimes IE *ĝbh* appears as *gbh* in Skt.

IE *diĝbhis* > Skt *digbhiḥ* (Nom sg *dik* might have influenced this form).

84. IE *ĝd* > IIr *žd* > Proto-Skt *ẓḍ* > Skt *ḍ* (*ẓ* was lost in Skt).

IE *mr̥ĝdīqo-* > IIr *mr̥ždīka-* > Skt *mr̥ḍīka-*, Av *mərəždika-* (cp Skt √ *mr̥j* (< IE *mr̥ĝ*) & *mr̥ṣṭa-*(< IE *mr̥k̂to-*).

IE *iĝdai* > IIr *iĝdai* > Skt *īḍe* (cp Skt *yajati* < IE *yaĝeti* 82).

85. IE *ĝdh* > IIr *ždh* > Proto-Skt *ẓḍh* > Skt *ḍh*/*ḍḍh*.

(i) IE *ĝdh* < *k̂*/*ĝ*/*ĝh* + *dh*

IE *mr̥ĝdhi* > IIr *mr̥ždhi* > Skt *mr̥ḍḍhi* (Skt √ *mr̥j* 84).

(ii) IE *ĝdh* (dialectal) < IE *ĝh* + *t*

IE *uĝdhos* (dialectal) (< IE *uĝh*+*to-s*; √*weĝh*) > IIr *uždhas* > Skt *ūḍhaḥ* (Skt √ *vah*), cp Av *uždra-* < IIr *uždhra-* < IE *uĝdhro-* (dialectal) < IE *uĝh*+*tro-*.

IE *dhr̥ĝdhos* (dialectal) (< IE *dhr̥ĝh*+*to-s*) > IIr *dhr̥ždhas* > Skt *dr̥ḍhaḥ* but cp Lat *forctis* < OLat *forctis* < IE *dhr̥k̂tis* (dialectal) < IE *dhr̥ĝh*+*ti-s*.

IE *wr̥ĝdhos* (dialectal) (< IE *wr̥ĝh*+*to-s*) > IIr *vr̥ždhas* > Skt *vr̥ḍhaḥ* (Skt √ *vr̥h* < IE *wr̥ĝh*).

86. IE *ĝh* > IIr *žh* > Skt *h* (perhaps < earlier **jh*).

IE *ĝheimontos* > IIr *žhaimantas* > Skt *hemantaḥ*, cp Av *zima-* 'winter', Arm *jiun* 'snow' Alb *dimëm* 'winter', Lith *žëma*, OCS *zima;* Gk *kheimṓn*, Lat *hiems*, OIrish *gam*, OCymric *gaem*, OCornish *goyf*, Ht *gemants*.

IE *weĝh* > IIr *važh* > Skt *vahati*, Av *vazaiti*, Alb *vieϑ* 'I steal', Lith *vežù*, OCS *vezą;* Gk *ókhos*, Lat *vehō*, OIrish *fēn* (<**fegn*), Goth *ga-wigan*.

IE *bhāĝhus* > IIr *bhāžhuṣ* > Skt *bāhuḥ* Av *bāzuš*, Gk (Dor) *pâkhus*, (Att-Ion) *pēkhus*, OHG *buog*, OIcel *bōgr*.

86a. IE *ĝh* > Skt *j* (instead of *h* < **jh*) when an aspirate was in the neighbouring syllable (71).

IE *ĝhiĝhāmi* > IIr *žhažhāmi* > Skt *jahāmi*, Av *zazāmi*, Gk *kikhánō, kikhēmen* 'I over take, reach'.

IE *ĝhengh* > IIr *žhangh* > Skt *jaṅghā*, Av *zanga-* cp Goth *gaggs*.

86b. IE *ĝh* + *s* > *k̂s* (79), *ĝh* + *t* > *ĝdh* (85).

87. IE *q* > IIr *k* > Skt *k* (and *k* in most others).

IE *qrewəs* > IIr *kraviš* > Skt *kraviḥ*, Av *χraviš*, Gk *kréas*, Lat *cruor* Lith *kraujas*, Ht *kurur* etc.

IE *qarq-* > IIr *kark-* > Skt *karkaṭaḥ*, Gk *karkínos*, Lat *cancer* (< **carcro-*).

IE *qr̥tos* > IIr *kr̥tas* > Skt *kr̥taḥ*, Av *kərətō*, OP *kr̥ta*, cp Gk *krainō*, Lat *creāre*.

IE labio-velars *qʷ* etc have fallen together with IE velars *q* etc in Skt as in any other Satəm language. Unless a cognate from Centum is available often the velar or labio-velar cannot be ascertained in a Satəm language.

87a. IE *q* > IIr *c* > Skt *c* befor palatal vowels (76).

IE *qeqāre* > IIr *cakāra* > Skt *cakāra*, cp OP *caχriyā* (besides Skt *kr̥ta* 87),

IE *qe·qormi* > IIr *carkarmi* > Skt *carkarmi*, cp Av *carkərəmahi* (√ *kr̥* 'commemorate, think').

IE *k̂euqeti* > IIr *šaucati* > Skt *śocati*, cp Av *sucint-* (beside Skt *śoka-*, Av *saoka-* < IE *k̂euqo-*, cp Gk *kúknos*.

IE *leuqeti* > IIr *raucati* > Skt *rocati* cp Av *raocō*, OP *rauca*, besi es Skt *lokaḥ*, (Vd) *rokaḥ*, Gk *leukós* (< IE *leuqos*).

cp also *citta-* (beside *ciketa*) etc. where *c* may be from IE *q* or *qʷ*.

88. IE *qt*>IIr *kt*>Skt *kt* Av *t* (IE *qt*<IE *q*/*g*+*t* **74**).

IE *yuqtos*>IIr *yuktas* > Skt *yuktaḥ*, Av *yuχtō*, cp Gk *zeuktós* (<IE *yeuqtos*), (beside Skt *yugam*<IE *yugom* **91**).

IE *bhaqtos*>IIr *bhaktas*>Skt *bhaktaḥ* (beside Skt *bhāgaḥ*, Av *bāga-* **91**).

89. IE *qs*>IIr *kš*>Skt *kṣ*, Av *χš* (IE *qs*<IE *q*/*g*/*gh*+*s* **74**).

IE *yeuq-sye-ti*>IIr *yaukšyati*>Skt *yokṣyati* (beside *yugam* **91**).

IE *bhaq-sye-ti*>IIr *bhakšyati*>Skt *bhakṣyati* (beside Skt *bhāgaḥ* **91**).

IE *(e)qs-ont*>IIr *(a)kšant*>Skt *(a)kṣan* (3 pl aorist)< √ *ghas* 'eat' (**95**).

89a. It should be noted that :—

Skt *kṣ*<IE *qs*/q^w*s* (**98**) as well as IE *k̂s*; but Av *γš*<IE *qs*/q^w*s* and *š*<IE *k̂s*.

89b. IE *gh-s*>IE *qs*>Skt *kṣ* and IE g^w*h-s*>IE q^w*s*>Skt *kṣ* (e.g. Skt *jakṣ*<IIr *jhakṣ*<IE *gheqs*<IE *ghegh-s* < √ *ghes* 'eat'); but dialectally IE *gh-s*>IE *gh-z* and g^w*h s*>g^w*hz*, which is retained in Iranian in most cases, although the other dialectal form (i.e. IE *qs*/q^w*s*<*gh-s*/g^w*h-s*) is also attested sometimes. e.g. Av *mimaγzo* < IE *mimegh-zo s* (< *-megh-so-s*), but also Av *daχša* <IE *dheq*^{w}*-so-*<IE *dheg*^{w}*h-so-*, cp Skt *dhakṣyati*<IE *dheq*^{w}*syeti*< √ *dheg*^{w}*h*.

90. IE *qh*>IIr *kh*>Skt *kh*

IE *k̂hāqhā*>IIr *šhākhā*>Skt *śākhā* NP *sāχ* Arm *çaχ*, Alb *θekë*, Lith *szakà*. Goth *hōha* (IE *k̂h-* & not *k̂-*, as required by Arm *ç-*).

IE *k̂oŋqhos*>IIr *šaŋkhas*>Skt *śaṅkhaḥ*, Gk *kóŋkhos*, Lat *congius*.

IE *maqhos*>IIr *makhas*>Skt *makhaḥ*, cp Gk *mákhomai*.

90a. IE *qh*>IIr *ch*>Skt *ch* befor palatal vowels. Similarly IE *q^wh* > IIr *ch* > Skt *ch*. Skt *ch* often became *c* by diaspiration if an aspirate followed (**90b**).

IE *qheqhōde*>IIr *chakhāda*>Skt *cakhāda* (IIr/Skt √ *khād*).

90b. IIr *kh* and *ch* (<IE *qh*/*q^wh*)>*k* and *c* respectively in Skt when an aspirate followed in the next syllable.

IE *qhumbhos*>IIr *khnmbhas*>Skt *kumbhaḥ*, cp Av *χumba-*.

IE *qheqhōde*>IIr *chakhāda*>Skt *cakhāda*.

Similarly Skt *cakhyau*, *cakhāna* etc.

91. IE *g*>IIr *g*>Skt *g* (and *g* in most other IE languages). IE *g* & *g^w* fell together in Skt, like any other Satəm language.

IE *yugom*>IIr *yugam*>Skt *yugam*, Gk *zugón*, Lat *iugum*, Ht *yugan*, Goth *juk*, OCS *igo*.

IE *bhāgos* > IIr *bhāgas* > Skt *bhāgaḥ*, Av *bāgō*, cp Gk *ěphagon*.

IE *ugros* > IIr *ugras* > Skt *ugraḥ*, Av *uγrō* Lith *augu* 'I grow', Gk *aúksō* (<IE *auq-sō*<*aug sō*) Lat *augeō*, OIrish *ōg*, Goth *áukan*.

9.a. IE *g*>IIr *j*>Skt *j* before palatal vowels.

IE *auges*>IIr *aujas*>Skt *ojaḥ* Av *aojō* etc besides Skt *ugraḥ* **91**.

IE *bhageti*>IIr *bhajati*>Skt *bhajati* cp Gk *phageî* beside Skt *bhāgaḥ* etc. **91**.

IE *gelom*>IIr *jalam*>Skt *jalam*, Lat *gelu* 'cold', Goth *kalds* 'cold'.

92. IE *gbh*>IIr *gbh*>Skt *gbh* (IE *gbh*<*q*/*g*/*gh*+*bh*).

IE *yugbhis* > IIr *yugbhiṣ* > Skt *yugbhiḥ* besides *yugom* etc. **91**.

93. IE *gd* > IIr *gd* > Skt *gd* (IE *gd* < IE *q/g* + *d*).

IE *gegdr̥r* > IIr *jagdr̥r* > Skt *jagduḥ* (pf < √*gad* 'speak').

94. IE *gdh* > IIr *gdh* > Skt *gdh* (IE *gdh* < IE *q/g/gh* + *dh* and dialectally < IE *gh* + *t* 74).

IE *ghegdhos* > IIr *jhagdhas* > Skt *jadghaḥ* (IE *ghe ghs-to-s* > *ghegh-tos* > *ghegdhos*) (Skt √ *ghas* 'eat') cp Skt *mumugdhi* (√ *muc/muk*), Skt *śuśugdhi* (√ *śuc/śuk*) etc. with Impv 2nd sg *-dhi* ending.

95. IE *gh* > IIr *gh* > Skt *gh*

IE *dl̥̄ghos* > IIr *dr̥̄ghas* > Skt *dīrghaḥ*, Av *darəγō*, OP *darga*, Gk *dolikhós*, Ht *dalugas*.

IE *ĝheŋgh* > IIr *žhaŋgh* > Skt *jaṅghā*, Av *zaŋgō*, Lith *żengiù*, Goth *gaggan*, OHG *gangan*, OIcel *ganga*.

IE *ghos* > IIr *ghas* > Skt *ghas-*, Av *gah-* 'eat', cp Ht *gast* 'hunger', Tokh (A) *kašt*, Tokh (B) *kest*.

95a. IE *gh* > IIr *jh* > Skt *h* before a palatal vowel.

IE *ĝheŋghes* > IIr *žhañjhas* > Skt *jaṃhas*, besides Skt *jaṅghā* (95).

95b. IE *gh*, which became *gh* or *jh* in IIr became *g* or *j* when an aspirate was in the next syllable.

IE *ghr̥dho-* > IIr *ghr̥dha-* > Skt *gr̥ha*, Lith *gardas* 'enclosure', OCS *gradŭ*, ONorse *garðr*, NEng *yard*.

IE *ghr̥dh* > IIr *ghr̥dh* > Skt *gr̥dh* 'be greedy', OCS *grędą*, Goth *griþs*, Lat *gradior*.

IE *gheghōse* > IIr *jhaghāsa* > Skt *jaghāsa*, beside Skt *ghas* 95.

95c. IE *gh s* > IE *qs* & *ghz* (89b).

96. IE q^w > IIr *k* > Skt *k*, and *k* in all Satəm languages; Lat *qu*, Gk *p*, but Gk *t* before palatal vowels, and also Gk *k*

when followed or preceded by *u*.

IE $q^{w}os$ > IIr *kas* > Skt *kaḥ*, Av *kō*, OP *kaš-ciy*, Lith *kàs*, OCS *kŭto*, Alb *që* 'which'; cp Gk *pó-then* 'whence', Lat *quod*, Goth *ƕas*, OHG *hver*, OIcel *hvat*, OIrish *cia*, Cymr *pwy*.

IE $wl̥q^{w}os$ > IIr *vr̥kas* > Skt *vr̥kaḥ*, Av *vəhrkō*, Lith *vil̃kas*, OCSl *vilkŭ* (= *vl̥kŭ*), cp Gk *lúkos*, Lat *lupus*. Goth *wulfs*, OHG *wolf*, OIcel *ulfr*.

IE peq^{w}- > IIr *pak-* > Skt *pākaḥ* 'cooking', *pakvaḥ* 'ripe', Av *pak-*, Lith *peką* 'I cook'; Gk *pépōn* 'ripe', Late *coquō*, Osc *popīna* (also loan word in Lat), Mid Cymr *popuryes* 'pistrix'.

96a. IE q^{w} > IIr *c* > Skt *c* before palatal vowels.

IE $q^{w}e$ > IIr *ca* > Skt *ca* Av/OP *ca*, Gk *te*, Lat *que*.

IE $q^{w}eq^{w}lo$- > IIr *cakra-* > Skt *cakra-*, Av *caχra-* OE *hweol*.

IE $peq^{w}eti$ > IIr *pacati* > Skt *pacati*, Av *pacaiti*, OCS *pečetĭ* 'cooks', Lat *coquit* etc. besides Skt *pākaḥ* (**96**).

IE $q^{w}etwōres$ > IIr *catvāras* > Skt *catvāraḥ*, Av *caθwārō*, Gk *téttares* (etc.), Goth *fidwōr*.

IE $peŋq^{w}e$ > IIr *pəñca* > Skt *pañca*, Av *panca*, Arm *hing*, Lith *penkì*; Gk *pénte*, Lat *quīnque*, OIrish *cōic*, OCymr *pimp*, Goth *fimf* (beside Skt *paṅktiḥ*, Alb *pesë* > IE $peŋq^{w}$-*tis*, and Gk *pémptos*, Lat *quīntus*, *quīnctus*, Goth *fimfta* Lith *peñktas* etc. < IE $peŋq^{w}to$-).

97. IE $q^{w}t$ > IIr *kt* > Skt *kt* (IE $q^{w}t$ < IE $q^{w}/g^{w}+t$ **74**).

IE $peŋq^{w}tis$ > IIr *paŋktiṣ* > Skt *paṅktiḥ* etc. (**96a**) beside Skt *pañca* etc. (**96a**).

IE $peq^{w}tos$ > IIr *paktas* > Skt **paktaḥ*, Gk *peptós*, Lat *coctus* etc., beside Skt *pākaḥ* (**96**), *pacati* (**96a**) etc.

IE $tyeq^{w}tos$ > IIr *tyaktas* > Skt *tyaktaḥ*, Gk *septós*, besides Skt *tyāgaḥ*, Gk *sébomai* < IE $tyeg^{w}$-(**100**).

97a. Skt *turya-* Av *tuirya-* (beside Av *aχtuirya-*), Gk *tra-* (in *trápeza* 'table, lit. four footed'), Ht *turan* 'team' *orig* 'an

unit of four' (CGSGH 57(c)) etc are to be derived from IE *tur-* which comes from IE *q^wtur-* 'four'. Perhaps initial q^w was sometimes dropped in IE before *t*.

98. IE *q^ws*>IIr *kṣ̌*>Skt *kṣ* (**98a**), Av *χš* (IE *q^ws*<IE *q^w/g^w/g^wh*+*s* **74**).

IE *wōq^{w}s*>IIr *vākṣ̌*>Skt *vāk* (<**vākṣ*), Av *vāχš*, Gk *ṓps* Lat *vōx*, besides Skt *vacas*, Av *vacō*>IE *weq^{w}es*, Gk *épos*<IE *weq^{w}os*.

IE *tyeq^w-syeti*>IIr *tyakṣ̌yati*> Skt *tyakśyati*, besides *tyāgaḥ* <IE *tyeg^w* (**100**).

98a. IE *g^whs*>IE *q^ws* and dialectally *g^whz* like IE *ghs*>IE *qs* and *ghz* (**89b**).

99. IE *q^wh*>IIr *kh*>Skt *kh*.

IE *sq^{w}hol* > IIr *skhal* > Skt *skalati* 'he stumbles', Av *skārayat-(raθa-)*, Arm *sχalem* 'I stumble', Gk *sphállomai* 'I stumble'. (Ht *skalatsi* 'stumbles' is problematic and presupposes IE *sqh* rather than *sq^{w}h*).

99a. IE *q^wh*>IIr *ch*>Skt *ch*, before palatal vowels.

IE *sq^{w}hel*>IIr *šchal*>Skt *chalayati* beside *skhalati* (**99**).

99b. IE *q^wh* > IIr *k/c* > Skt *k/c* when another aspirate followed.

No sure example can be cited; some of the examples cited in **90b**. may come under *q^wh*, as *qh* or *q^wh* cannot often be determined.

100. IE *g^w*>IIr *g*>Skt *g*.

IE *g^wōus*>IIr *gāuṣ̌*>>Skt *gauḥ*, Av *gāuš*, Arm *kov*, OCS *gov-*, Gk *boûs*, Lat *bōs* (perhaps loan from Oscan). Umb *bue*, OIrish *bō*, OHG *chuo*.

IE *tyeg^w*>IIr *tyag*>Skt *tyāgaḥ*, Gk *sébomai*.

IE *g^wm̥* (< √ *g^wem* **100a**)>IIr *ga*>Skt *gahi*, *gacchati*, gAv *gaidī*, Arm *ekn* 'He came' Lith *gemù* 'I am born' (<* I have

come to earth), Gk *baínō*, *báskō*, Lat *veniō*, Goth *qiman*, OHG *queman*.

100a. IE *q*^{w} > IIr *j* > Skt *j* Av *j* (sometimes *ž*) OP *j*, (also Gk *d*) when a palatal vowel followed.

IE *tyeg*^{w}*eti* > IIr *tyajati* > Skt *tyajati*, cp Av *iθyejah-* besides Skt *tyāgaḥ* (**100**).

IE *g*^{w}*em* > IIr *jam* > Skt *j.madagniḥ* (besides Skt *gahi* **100**), gAv *jamaiti* (cp Av *jasaiti* besides Skt *gacchati*, with *j-* for *g-* after *jamaiti*), OP *ājamiyā*.

IE *g*^{w}*ĭwos* > IIr *jĭvas* > Skt *jīvaḥ*, cp OP *jīva* 'alive', Arm *keam* 'I live', Lith *gy'vas*, OCS *žizŭ*; Gk *bíos*, Lat *vīvas*, OIrish *biu*, *beo*, Cymr *byw*, Goth *qius*.

101. IE *g*^{w}*d* > IIr *gd* > Skt *gd* (< IE *g*^{w}*d* < IE *q*^{w}/*g*^{w} + *d*).

IE *wōg*^{w}*dōnom* (< *-q*^{w}*d-*) > IIr *vāgdānam* > Skt *vāgdānam*.

102. IE *g*^{w}*dh* > IIr *gdh* > Skt *gdh* (IE *g*^{w}*dh* < IE *q*^{w}/*g*^{w}/*g*^{w}*h* + *dh* and dialectally < IE *g*^{w}*h* + *t* **74**).

IE *snig*^{w}*dhos* (< IE *snig*^{w}*h+tos*) > IIr *snigdhas* > Skt *snigdhaḥ*, beside *sneha-* (**103a**).

IE *dheg*^{w}*dhos* (< IE *dheg*^{w}*h-tos*) > IIr *dhagdhas* > Skt *dagdhaḥ* (beside Skt *nidāghaḥ* **103**).

103. IE *g*^{w}*h* > IIr *gh* > Skt *gh*.

IE *g*^{w}*hn* (< IE *g*^{w}*hen*) > IIr *ghn* > Skt *ghnanti*, cp Av *ni-γne*, Ht *gunantsi*, Gk *phónos* (< IE *g*^{w}*honos*), OIrish *gonim* 'I kill'.

IE *g*^{w}*hormos* > IIr *gharmas* > Skt *gharmaḥ*, Av *garəmō*, (perhaps OP *garma-pada* 'name of a month' may be related), OPruss *gorme*, Lat *formus*, OHG *warm*, Goth *warms*, beside Arm *Jerm* & Gk *thermós* (< IE *g*^{w}*hermos*).

IE *dhēg*^{w}*hos* > IIr *dhāghas* > Skt *ni-dāghaḥ* 'summer', Alb *diek* 'I burn', Lith *dagà* 'harvest' (< *hot time), Pruss

daga-gaydis, OCS *žegą* 'I burn', cp Gk *téphra* 'ashes' (< IE *dheg*^{w}*hrā*), Goth *dags*, OHG *tag*, OIcel *tagr* etc. 'day'.

IE *meug*^{w}*ho-* > IIr *maugha-* > Skt *mogha-* Lat *muger*, *mufrius* (loan from Oscan).

103a. IE *g*^{w}*h* > IIr *jh* > Skt *h* before a palatal vowel cp Av *j* (sometimes *ž*), OP *j*, (Gk *th*).

IE *meug*^{w}*hes* > IIr *maujhas* > Skt *mohaḥ* beside *mogha-* (103).

IE *sneig*^{w}*hes* > IIr *snaijhas* > Skt *snehaḥ* (beside *snigdha* 102), Av *snaežaiti* 'it snows', Lith *snëgas*, OCS *snegŭ* 'snow' Gk *nípha* (Acc sg) 'snow', Lat *ninguit*, (Acc) *nivem*, Goth *snáivs* OIrish *snigit* 'it drops'.

IE *g*^{w}*henti* > IIr *jhanti* > Skt *hanti*, Av *jainti*, OP *ja(n)ti*, Gk *theínō*, Ht *gwentsi* (Skt *hataḥ* & Av *jatō* etc. have palatals after *hanti* etc).

103b. IE *g*^{w}*h* > (IIr *gh*/*jh*) > Skt *g*/*j* when an aspirate followed in the next syllable.

IE *g*^{w}*heg*^{w}*hōne* > IIr *jhaghāna* > Skt *jaghāna* cp Gk *épephon*.

IE *g*^{w}*hig*^{w}*hreti* > IIr *jhighrati* > Skt *jighrati* cp Lat *frāgrāre* (Lat also with reduplication), cp Gk *osphraínomai* (< IE *ots-g*^{w}*hr̥nyomai*).

CHAPTER XI

IE Dentals and Labials

104. IE Dentals & Labials in Skt

IE dentals and labials are almost preserved intact in Skt. The following peculiarities are worth-mentioning :

(a) In a combination of two dental stops a spirantal glide optionally developed in IE, which was rarely retained but often lost in Skt (vide 74 (g)); e.g. IE *tt(h)*>IE *tt(h)* or *tst(h)*> Skt *tt(h)*. As a result of this tendency in Skt, in some cases IE original *tst(h)* (i.e. not with spirantal glide but with the original spirant) has also become *tt(h)* in Skt; e.g. IE *ut-sthətos* (>IE *ud sthətos*)>IIr *utsthitas*>Skt *utthitaḥ* (108a).

(b) The Cerebral sounds developed in Skt out of IE dentals.

105. IE *t*>IIr *t*>Skt *t* and *t* in most IE languages.

IE *tom*>IIr *tam*>Skt *tam*, Av *təm*, cp OP *ai-ta-*, Lith *ta-*, OCS *to-*, Alb *të*, Gk *ton*, Goth *þan-a*, Ht *tan.*

IE *wert*>IIr *vart*>Skt *vartate* cp Av *vāšəm* (<IIr *vartam*), Lith *vart-*, Lat *vertō*, Goth *wairþan*.

IE *peteti*>IIr *patati*>Skt *patati*, Av *pataiti*, cp OP *ud-apatatā*, Gk *pétomai*, Lat *petō*, OBret *etn*, OIrish *ēn* 'bird' (with lost of *p-* in Celtic), Ht *petatsi*.

IE *treyes*>IIr *trayas*>Skt *trayaḥ*, Av *θrāyō*, cp OP *s^ritīya* (<IIr *tritīya-*) Alb *tre*, Lith *trys̃* OCS *trĭje*, *trije*, Gk *treîs*, Lat *trēs*, OIrish *trī* Goth *þreis*.

105a. IE *t*>IIr *t*>(but) Skt ṭ after *ṣ* (<IIr *š* which may be from IE *k̂* 78 or from IE *s* 153).

IE *ik̂to*>IIr *išta*>Skt *iṣṭa-*, cp Av *išta-* 'worshipped'.

IE *isto-* > IIr *išta-* > Skt *iṣṭa-* (√ *iṣ* 'desire' < IIr √ *iš* Av *išaiti*), cp Av *išta-* (Vide 153 for more examples).

105b. IE *t* > IIr *t* > (but) Skt ṭ by Prakritism sometimes (166). cp Skt *kaṭa-* < *kṛta-*, *taṭa-* < **tṛta-*, *vaṭa* < *vṛta-* *naṭa-*, < *nṛta-*, *bhaṭṭāraka-* < *bhartāraka-* etc.

105c. IE *t* > IIr *t* > (but) Skt ṭ by spontaneous cerebralization sometimes.

Skt *aṭati* besides *atati*.

106. IE *tq/tq*^{w} > IIr *tc* (when followed by a palatal vowel) > Skt *cc* (IE *tq/tq*^{w} < IE *t/d/dh* + *q/q*^{w}).

IE *ut-q*^{w}*e* (< IE *ud-q*^{w}*e*) > IIr *utca* > Skt *ucca-*, cp Av *usca-*.

IE *q*^{w}*ot-q*^{w}*id* (< IE *q*^{w}*od-q*^{w}*id*) > IIr *katcid* > Skt *kaccit*, cp Av *katarascit* (< *t-c*), cp OP *cisciy* (< IIr *citcid*).

107. IE *tk̂* > IIr *tš* > Skt *cch* (IE *tk̂* < IE *t/d/dh* + *k̂*).

IE *potk̂os* (< IE *pod-k̂os*) > IIr *patšas* > Skt *pacchaḥ*.

IE *utk̂ritos* (< IE *ud-k̂ritos*) > IIr *utšritas* > Skt *ucchritaḥ*.

108. IE *tt* > IE *tt/t*^{s}*t* > IIr *tt/st* > Skt *tt*. IE *tt* developed a sibilant glide optionally and became *tst* which further became *st*. But Skt retained the original *tt* (IE *tt* < IE *t/d* + *t*).

IE *wṛttos/wṛt*^{s}*tos* > IIr *vṛttas/vṛstas* > Skt *vṛttaḥ* beside *vartate* (105).

IE *uttṃmos/ut*^{s}*tṃmos* > IIr *uttamas/ustamas* > Skt *uttamaḥ*, Av *ustəmō*, cp Gk *hústatos* < IE *ut*^{s}*tṃtos*.

IE *wittos/wit*^{s}*tos* > IIr *vittas/vistas* > Skt *vittaḥ*, Av *vistō*, cp Gk (verb) *íston* (> IE *wit*^{s}*tom*).

108a. IE original *tst* also has become *tt* in Skt.

IE *ut-stembho-* > IIr *ut-stambha-* > Skt *uttambha-* (beside Skt *stambha-*).

109. IE *tth* > IE *tth/t*^{s}*th* > IIr *tth/sth* > Skt *tth* (like *tt* 108).

IE *woit-tha/woit*^{s}*tha* (< IE *woid-tha*) > IIr *vaittha/vaistha* > Skt *vettha*, Av *vōista*, Gk *oîstha*, Goth *waist*.

109a. IE original *tsth* also became *tth* in Skt (like original *tst* **108a**).

IE *ut-sthətos*<IIr *utsthitas*>Skt *utthitaḥ* (beside Skt *sthitaḥ*).

110. IE *ts*<IIr *ts*< Skt *ts* (IE *ts*>IE *t/d/dk+s* **74**).

IE *wert-sye-tai* (< IE *wert-sye tai*, *werdh-sye-tai*) > IIr *vart-sya-tai*>Skt *vartsyate* beside Skt *vartate* (**105**) and *vardhate* (**118**).

IE *pot-su* (< IE *pod-su*) >IIr *patsu* >Skt *patsu*, Gk *póssi*. (cp Av) *fšuyatsu*<*psuyatsu* 'breeding animals'.

110a. IE *dh-s*>IE *ts* (**110**) and dialectally also IE *dh-z* which became *dz* in Old Iranian; OIr *dz* > Av *z* (through **zz*) cp Av *mazaos* 'paying attention' < **mazzauš* <*madzauš* <IIr *madhzau˝* < IE *mn̥dh-zeus* (Vide Misra : Avestan **97** and Vide Reichelt **104** (8)).

111. IE *th*>IIr *th*>Skt *th*.

IE *woitˢtha*>IIr *vaitˢtha*>Skt *vettha*, Av *dadāθa*, Gk *oîstha* etc (**109**).

IE *gronth*> IIr *granth*> Skt *granthih*, Gk *grónthos*.

IE *pl̥thus*>IIr *pr̥thu˝*>Skt *pr̥thuḥ* Av *pərəθušcp* Gk *pláthanon* (but Gk *platus*<IE *pl̥tus* with the suffix *-tus*).

IE *bherethe*>IIr *bharatha*>Skt *bharatha*, cp Av *isaθa*, Goth *bairiþ* (but Gk *phérete* has *-te* from secondary ending).

112. IE *th*>IIr *th*>Skt *t* when another aspirate was in the neighbouring syllable.

IE *sthistheti*>IIr *sthitšhati*>Skt *tiṣṭhati* Av *hištaiti*, cp Gk *hístāmi* (Dor), Ht *titami*. Similarly Skt *tasthau* <IE *sth-e-sthā*.

113. IE *th*> IIr *th*> Skt *ṭh* when it was preceded by *ṣ*<IIr *š* <IE *k̂* or *s* (like *t* > *ṭ* **105 a**).

IE *sthistheti*> IIr *sthišthati*> Skt *tiṣṭhati*, Av *hištaiti* etc(**112**)

IE *sek̂sthos*> IIr *sa(š)šthа-*>Skt *ṣaṣṭhaḥ*, cp Gk *héktos* etc (**595**). Similarly Skt *kāṣṭhā* (<*kāś thā*), *niṣṭhā-* (<*ni-sthā-*) etc.

113a. IE *th*>IIr *th*>Skt *ṭh* by Prakritism (**116**). Skt *jaṭhara-* < IIr *jarthara-* <IE *qʷelthero-* (**134b**).

114. IE *d* > IIr *d* > Skt *d*

IE *deḱm̥* > IIr *daša* > Skt *daśa*, Av *dasa*, Gk *déka*, Lat *decem* etc (77).

IE *didōti* > IIr *didāti* > Skt *dadāti*, Av *daδāiti* Gk *dídōsi*.

IE *woida* > IIr *vaida* > Skt *veda*, gAv *vaēdā*, Arm *gitem*, Lith *veidas*, OCS *vĕdĕti*, cp Gk *oîda*, Lat *videō*, Goth *wáit*, OIrish *ad-fiadaim*.

IE *edmi* > IIr *admi* > Skt *admi*, Arm *utem*, Lith *édu* 'I eat', OCS *jadĭ* 'food', cp Gk *édō*, Lat *edō*, Osc *edum*, Goth *ita*.

115. IE *d* > IIr *d* > Skt *ḍ* after IIr *ẓ* < IE *ĝ*/*z*.

IE *mr̥ĝdīqo-* > IIr *mr̥ẓdīka-* > Skt *mr̥ḍīka-*, Av *mərəždīka-* (84).

IE *nizdos* (*zd* < *sd* < √*sed*) > IIr *niẓda-* > Skt *nīḍa-*, Arm *nist*, Lat *nīdus*, OHG *nest*.

115a. IE *d* > IIr *d* > Skt *ḍ* by Prakritism also (166) e.g. Skt *aṇḍa* (< IE *endro-*), *daṇḍa-* (< IE *dendro-*) (134).

116. IE *dd* (> IE *d^zd*) > IIr *d^zd* > Skt *dd* (IE *dd* < IE *t*/*d* + *d*) Skt *taddānam* < IE *tod* + *dōnom*.

117. IE *ddh* (> IE *d^zdh*) > IIr *ddh*/*d^zdh* > *zdh*) > Skt *ddh*/**zdh*; **zdh* became *dh* in Skt, after **z* was lost, with effect on preceding vowels (IE *ddh* < IE *t*/*d*/*dh* + *dh* and dialectally < IE *dh* + *t*.

IE *did^zdhi* > IIr *dad^zdhi* > Skt *dehi*, Av *dazdi*, cp Gk *dídōthi* < IE *didōdhi*.

IE *dhid^zdhi* > IIr *dhad^zdhi* > Skt *dhehi*, Av *dazdi*.

IE *wid^zdhi* > IIr *vid^zdhi* > Skt *viddhi*, Gk *ísthi*.

IE *id^zdhos*(< IE *idh-tos*) > IIr *id^zdhas* > Skt *iddhaḥ* besides Skt *edhaḥ* (118).

118. IE *dh* > IIr *dh* > Skt *dh*

IE *dhidhēmi* > IIr *dhadhāmi* > Skt *dadhāmi*, Av *daδāmi*, Arm *d-nem* 'I set', Gk *títhēmi*, Lat *faciō*, Goth *ga-dēþs*.

IE *aidhos*>IIr *aidhas*>Skt *edhaḥ*, Gk *aîthos*, Lat *aēdes* etc (48).

IE *dhūmos*>IIr *dhūmas*>Skt *dhūmaḥ*, Lith *dúmai*. OCS *dymŭ*, Gk *thūmos* 'soul' Lat *fūmus*.

IE *medhu*>IIr *madhu*>Skt *madhu*, Av *maδu-*, Lith *medùs*, OCS *medŭ*, Gk *méthu*, OIrish *mid*, OHG *metu*, *meto*, OE *meodu*.

IE *werdhetai*>IIr *vardhatai*>Skt *vardhate*, cp Av *vərəδ-*.

118a. IE *dh*>IIr *dh*>Skt *h* in a few instances.

IE *dhətos*>IIr *dhitas*>Skt *hitaḥ*, cp Gk *thetós* (beside Skt *dadhāmi* 118).

IE *gʷm̥dhi*>IIr *gadhi*>Skt *gahi*, gAv *gaidī* (besides Skt *śrudhi*, Av *sruidī*, Gk *kluthí*<IE *k̂ludhi*).

Similarly Skt *rohita-*, *lohita-*, *lauha-* etc besides *lodhra* etc <IE *reudh* (133).

118b. IE *dh*>IIr *dh*>Skt *d* if an aspirate followed in the immediate next syllable.

IE *dhidhēmi*>IIr *dhadhāmi*>Skt *dadhāmi* (118) (initial *d*<*dh*).

IE *dhugh* > IIr *dhugh* > Skt *duh* (besides *adhuk*, *dugdha* (cp Av *duγda-*)).

IE *dhegʷh*>IIr *dhagh*>Skt *dah* (cp Skt *dāgha* etc 95).

118c. IE *dh* > IIr *dh* > Skt *ḍh* after IIr *ẓ̌* (<IE *ĝ* or *z* 166).

IE *uĝdhos*(<IE *uĝh-tos*)> IIr *uẓ̌dhas*>Skt *ūḍhaḥ* (85).

IE *mizdhos*>IIr *miẓ̌dhas*>Skt *mīḍhaḥ*, Av *mižda-*, Gk *misthós*, Goth *mizdō*, OCS *mĭzda*.

118d. IE *dh*>IIr *dh*>Skt *ḍh* by Prakritism also (166).

119. IE *p*>IIr *p*>Skt *p*

IE *peteti*>IIr >*patati*>Skt *patati* Av *pataitī*, Gk *pétomai*, Ht *petatsi* etc (**105**).

IE *pətēr*>IIr *pitā*>Skt *pitā*, Av *pita*, OP *pitā*, Gk *patḗr*, Lat *pater*, Goth *fadar* etc (**31**).

IE *pro*>IIr *pra*>Skt *pra*, Av & OP *fra*, Lith *pra-*, OCS *pro-*, Gk *pro*, Lat *pro*, Ht *pra*, OIrish *ro*.

IE *terp*>IIr *tarp*>Skt *tarpayāmi*, Lith *tarpà* 'a thriving', Pruss *-terpo*, Lat *terpō*, Gk *térpomai*.

IE *swep*>IIr *svap*>Skt *svapiti*, *svapnaḥ*, Av *χ̌ap-*, *χ̌afna*, Lith *sȃpnas*, OCS *sŭpati*, Lat *sopor*, *somnus*, OE *swefan*, Gk *húpnos* (<IE *supnos*).

120. IE *pt* (<IE *p*/*b*+*t*)>IIr *pt*>Skt *pt*

IE *tr̥ptos*>IIr *tr̥ptas*>Skt *tr̥ptaḥ* (besides Skt *tarpayāmi* **119**).

IE *suptos* > IIr *suptas* > Skt *suptaḥ*, (beside Skt *svapiti* **119**).

IE *septm̥*>IIr *sapta*>Skt *sapta*, Av *hapta*, Gk *heptá*, Lat *septem*.

121. IE *ps* (<IE *p*/*b*/*bh*+*s*)>IIr *ps*>Skt *ps*

IE *tr̥psyeti*>IIr Skt *tr̥psyati* (beside Skt *tarpayāmi* **119**).

IE *lapsyetai* > IIr *lapsyatai* > Skt *lapsyate* (beside Skt *labh* **127**).

121a. IE *bh-s*>IE *ps* (**121**) and also dialectally *bhz*; IE *bh-z*>OIranian *bz*>Av *wz* e.g. *diwzaidyāi* < **didbz-* (IE √*dhebh*, Skt √ *dabh*).

122. IE *ph*>IIr *ph*> Skt *ph*

IE *phelom*, *pheleti* > IIr *phalam*, *phalati* > Skt *phalam*, *phalati*, cp Gk *phóllon*, Lat *folium*<IE *pholyom*.

IE *sphr̥̄ĝeti*>IIr *sphr̥̄žati*>Skt *sphūrjati*, cp Gk *spharagéomai*<IE *sphr̥rəĝeyomai*.

IE *sphyĕm*>IIr *sphyam*>Skt *sphyam*, cp Gk *sphḗn*.

Similarly Skt *śapha-* (Av *safa-* <IE *k̂opho-*), *kapha-* (Av *kafa-*), *phalaka-* (Gk *sphélas*, OCS *polica*) etc.

123. IE *ph*>IIr *ph*>Skt *p* if an aspirate followed in the immediate next syallable.

IE *phephōle*>IIr *phaphāla*>Skt (Mahābhārata) *paphāla*, beside *phalati* etc (122).

Similarly Skt perfect *pusphurja* (in Grammars only) beside *sphūrjati* (122).

124. IE *b*>IIr *b*>Skt *b*

IE *barbaros*>IIr *barbaras*>Skt *barbaraḥ*, Gk *bárbaros*.

IE *pibō* > IIr *pibā(mi)* > Skt *pibāmi*, Lat *bibō*, OIrish *ebaim*.

IE *belom* > IIr *balam* > Skt *balam*, cp Lat *de-bilis*, Gk *bélteron* etc.

125. IE *bd*>IIr *bd*>Skt *bd*

IE *-bd-* (weak stem of *ped*)>IIr *-bd-* >Skt *upa-bd-a*, Av *f-a-bd-a-* Gk *epí-bd-a*.

Similarly Skt *abda-* (<*ap*+*da*) etc.

126. IE *bdh*>IIr *bdh*>Skt *bdh* (IE *bdh*<IE *p/b/bh*+*dh* and dialectally <*bh*+*t*).

IE *labbhos*>IIr *rabdhas*>Skt *labdhaḥ*, *rabdhaḥ* besides Skt *labh* (127).

IE *lubdhos*>IIr *rubdhas*>Skt *lubdhaḥ* beside Skt *lobhaḥ* etc (127).

Similarly Skt *dabdhaḥ*, *stabdhaḥ* etc.

127. IE *bh*>IIr *bh*>Skt *bh*

IE *bhrātēr*>IIr *bhrātā*>Skt *bhrātā*, Av & OP *brātā*, Arm *eɫbĕir*, Lith *broter-ēlis*, OCS *bratrŭ*, Gk *phrā́tōr*, Lat *frater*, OIrish *brathir*, Goth *brōþar*.

IE *nebhos* > IIr *nabhas* > Skt *nabhaḥ*, OCS *nebo*, Gk *néphos*, Ht *nebes*, cp Lat *nebula*, OHG *nebil* etc.

IE *labh* > IIr *rabh* > Skt *rabh* (vd), *labh*, Gk *láphuron*, *laphría* etc.

IE *leubhos* > IIr *raubhas* > Skt *lobhaḥ* 'greed, desire', OCS *ljubŭ* 'dear', Lat *lubet*, *libet*, Goth *liufs* (*liuba-*), OHG *liob*, OE *lufu* (NE *love*).

IE *bherō* > IIr *barāmi* > Skt *bharāmi*, Av *barāmi*, OP *barāmiy*, Arm *berem*, OCS *berą*, Gk *phérō*, Lat *ferō*, OIrish *berim*, Goth *baira*.

128. IE *bh* > IIr *bh* > Skt *h* sometimes (very rarely),

IE *ghr̥bh* > IIr *ghr̥bh* > Skt *gr̥h*/*gr̥bh*

Similarly Skt *harati* besides *bharati*.

129. IE *bh* > IIr *bh* > Skt *b* when another aspirate was in the immediate next syllable.

IE *bhebhōre* > IIr *bhabhāra* > Skt *babhāra* (beside Skt *bharāmi* 127).

Similary Skt *babhūva* (cp Gk *péphūka*) beside Skt *bhavati* etc.

CHAPTER XII

IE Consonantal Secondary Vowels

130. The Consonantal Secondary Vowels in IE & Skt.

The Secondary Vowels (32) had six consonantal variants viz., *y*, *w*, *r*, *l*, *m*, *n* corresponding respectively to IE *i*, *u*, *r̥*, *l̥*, *m̥*, *n̥*. These consonants are further classified as :-(a) Semi vowels : *y* & *w*; (b) liquids : *r* & *l* and (c) nasals : *m* & *n*.

(a) **Semi vowels**—*y* & *w*. These are retained intact in Skt, whereas in an important language like Gk they are lost. Since initial *y* shows two different developments in Gk as *h* & z, Brugmann has assumed two different original IE sounds, viz., one semivowel *y* & another spirant *y*. Laryngealists try to explain these with two different lost laryngeals before *y*. But such sundry cases should preferably be treated as special developments in particular languages, without attributing unnecessary and fictitious phonetic burden to the proto-speech. Gk *z*, as explained by some to be a development, due to generalization of a combination of *d* with *y* in certain words, is in no way less scientific. Thus Gk *zúgon*>IE *d-yugom*, rather than IE *yugom* which is found in Skt *yugam* etc. A prefixed *d-* is traceable in several other IE words e.g. IE *d-ak̂ru* (Gk *dákru*) : IE *ak̂ru* (Skt *aśru*) etc.

(b) **Liquids**—*r* & *l*. Skt shows r & l. But these donot always correspond to IE *r* & *l*. Iranian shows only *r* out of IE *r* & *l*. It is therefore assumed that IE *r* & *l* fell together in IIr and Skt has once again developed *l* out of IIr *r*. This is also confirmed from the fact that gradually in development of Indo-

Aryan *l* has become more and more frequent. It is least frequent in the earliest part of RV and more frequent in the later part of it. Its frequency increases gradually more and more in late vedic and still more in classical. In Māgadhī (one MIA lauguage) *l* has replaced *r* altogether.

On the other hand *r* & *l* are confused in most of the languages of the world. Some scholars think that in IE also *r* & *l* were confused. Skt also in some of the IE words constantly retains IE *r* & *l* (e.g. Skt √ *bhar*, √ *lubh* etc). But because of the agreement in *r* & *l* in most of the non-IIr languages, it is preferable, at least tentatively, to accept that Skt has confused IE *r* & *l*, by a new development of the *l* sound in Indo-Aryan. Similar treatment is also applicable to IE *r̥* & *l̥* (35).

(c) **Nasals** : *m* & *n*

IE *m* & *n* are original nasal consonants corresponding to the secondary vowels *m̥* & *n̥*. IE *n* further became *n̂* before the palatals (*k̂*, *k̂h*, *ĝ*, *ĝh*), *ŋ* before the velars (*q*, *gh*, *g*, *gh*) and η^w (normally in reconstructions written *ŋ*) before the labiovelars (q^w, q^wh, g^w, g^wh). IE *n* & *ŋ* (including η^w) donot occur in other positions. But IE *m* & *n* occur in all positions (except the limitations suggested in 35). From the point of view of articulation, the nasals may be classified, along with each class of the plosive, as well. That IE *n* became *n̂* & *ŋ* etc can be verified from the analysis of certain IE forms like *enen̂k̂a* (Skt *ānaṃśa*) from the root *nek̂* or *enek̂* (Skt *naś*) etc, where original *n* has become *n̂* before *k̂*.

It is absolutely unnecessary to reconstruct *n̥̂* etc instead of *n̥* before *k̂* etc. For example for Skt *aś* IE *n̥k̂* is to be reconstructed; *n̥̂k̂* is unnecessary, because the vowel *n̥* need not change into *n̥̂*, since it does not form a conjunct with *k̂*.

131. IE *y*>IIr *y*>Skt *y*, Av & OP *y*, Gk *h*/*z*

IE *yos*>IIr *yas*>Skt *yaḥ*, Av *yō*, OP *ya*, Gk *hós*.

IE *yaĝnos* > IIr *yažnas* > Skt *yajñaḥ*, Av *yasnō*, cp OP *yadataiy*, Gk *hágnos*.

IE *yugom* > IIr *yugam* > Skt *yugam*, OCS *igo* (< **jĭgo* < **jŭgo*), cp Lith *jùngas*, Gk *zúgon* (**130a**), Lat *iugum*, Goth *juk*.

IE *yē̆q*^{w}*r̥(t)* > IIr *yā̆kr̥(t)* > Skt *yakr̥t*, Av *yākarə*, Gk *hêpar*, Lat *jecur*.

IE *mōneyō* > IIr *mānayāmi* > Skt *mānayāmi*, Lat *moneō*.

132. IE *w* > IIr *v* > Skt *v*

IE *weĝh* > IIr *važh* > Skt *vahati*, Av *vazaiti*, Alb *vieθ*, Lith *vežù*, OCS *vezą*, Lat *vehō* etc (**86**).

IE *wl̥q*^{w}*os* > IIr *vr̥kas* > Skt *vr̥kaḥ*, Av *vəhrkō*, Goth *wulfs*, Lat *lupus* etc (**96**).

IE *weyom* > IIr *vayam* > Skt *vayam*, Av *vaēm*, OP *vayam*, cp Goth *weis* & Ht *wes* < IE *weis*.

IE *newos* > IIr *navas* > Skt *navaḥ*, OCS *novŭ*, Gk *néos*, Lat *novus*, cp Ht *newet*.

IE *g*^{w}*īwos* > IIr *jīvas* > Skt *jīvaḥ*, Av *jīvō*, OP *jīva*, Lith *gyvas* Lat *vīvus* Gk *bíos* etc.

133. IE *r* > IIr *r* > Skt *r* & *l* (**130b**)

IE *reudh* > IIr *raudh* > Skt *rudhira-*, *rohita-*, *lohita-*, (cp also *lauha-* 'iron', *lodhra-* 'a red flower',) OCS *rŭdrŭ*, Gk *eruthrós*, Lat *ruber*, Umb *rofu*, OIrish *ruad*, Goth *ráuþs*, OIcel *roðra*, OE *rēad* OHG *rot*.

IE *peri* > IIr *pari* > Skt *pari*, **pali-* (cp *palyaṅka-*, beside *paryaṅka*), Av *pairi*, OP *pariy*, Lith *per*, Gk *péri*, Lat *per*, OIrish *er*. Goth *faír*.

IE *pro* > IIr *pra* > Skt *pra*, Av & OP *fra*, Lith *pra*, OCS *pro*, Gk *pro*, Lat *pro*, OIrish *ro*, Goth *fra-*, OHG *fra-*.

Similarly also Skt *riś/liś* (< IE *rik̂* cp Gk *ereíkō*), *luñc* (< IE *ruᵑq* cp Lat *runcare*), *gras*/(very rare) *glas* (< IE *gras* cp Gk *gráō*, Impv *grásthi*) etc. Skt *bharati* (< IE *bhereti*, Av *baraiti*, Gk *phérei*, Goth *bairiþ* etc), and *pitar-* (etc *-r* stems)

(< IE *pəter-* cp Gk *patḗr* etc 31) almost always maintain *r* in Skt.

Skt developed *l* more and more gradually which often contributed peculiar new forms, e.g. Skt *kṣullaka-* (< **kṣudla-ka-* beside *kṣudra-*), *bhalla-* (< **bhadla-* beside *bhadra-*) etc.

134. IIr *r* (< IE *r* & *l*) is sometimes found to be lost in Skt after cerebralising a dental. This is a regular feature in MIA. Hence such cases in Skt are cases of Prakritism in early Indo-Aryan.

Fortunatov has cited many cases, where a Skt cerebral corresponds to a cluster of *l* + dental in other IE languages, and concludes that IE *l* was lost in Skt after cerebralizing the dental, but his theory is not accepted, because there are also cases of cerebralization of dentals in Skt after the loss of *r* as well, Hence it is more appropriate to assume that IIr *r* (< IE *r*/*l*) was sometimes lost in Skt after cerebralizing a dental e.g.

(a) IE *r* lost, with cerebralization of dental

Skt *kaṭuḥ* 'bitter' < IIr *kartuš*, cp Lith *kartùs* 'bitter'

Skt *gaṇa-* 'group' < IIr *garna-*, cp Gk *agorā́* 'assembly'.

Skt *daṇḍa-* 'stick' < IIr *dandra-*, cp Gk *déndron* 'tree', *aũos déndros* 'stick'.

Skt *aṇḍa-* 'egg' < IIr *andra-*, cp OCS *jẹndro*.

Skt *āḍhya-* 'rich' < IIr *ārdhya-*, cp Skt *ṛddhaḥ* 'prosperous'.

(b) IE *l* lost with cerebralization of dental

Skt *jaṭhara-* 'womb' < IIr *jarthara-*, cp Goth *kilþei* 'womb'.

Skt *paṇa-* 'reward, profit', *vipaṇi-* 'market', **paṇi-* 'a tribe' (< marchant ?), *āpaṇam* 'shop' etc < IIr *parna-*, *parni-* etc, cp Lith *pel̃nas* 'profit'

Skt *pāṣāṇa* 'rock' < IIr *parṣ̌āna-*, cp NHG *fels* 'rock'.

Skt *laṣati* 'desires' < IIr *rarṣ̌ati*, cp Gk *lilaíomai* 'covet', cp also Skt *rasa*, *lālasā* 'desire'.

Skt *hāṭaka-* 'gold' < IIr *žhārtaka-* cp Goth *gulþ*, Eng *gold* etc, cp also Skt *hiraṇya-*. Av *zaranya-* etc.

134a. This change might have started in sundry cases in OIA. But in MIA this is a normal feature; e.g. MIA *maṭa-*, *maḍa* (< Skt *mṛta-*), *paḍhama-* (< Skt *prathama-*), *buḍḍha-* (< Skt *vṛddha-*) etc.

135. IIr *r* (< IE *r/l*) > Skt *ḥ* in a final position.

IE *ner* > IIr *nar* > Skt *naḥ* (Voc), Av *narə* Gk *anêr* beside Skt (Loc) *nari*, Av *nairi* Gk *anéri*.

IE *māter* > IIr *mātar* > Skt *mātaḥ* (Voc), Gk *mêter*, beside Skt *mātaram* (Acc), Gk *mētéra*.

IE *eqort/eqors* > IIr *akart/akarṣ̌* > Skt *akaḥ* (cp RV (Padapāṭha) *akar ity akaḥ*).

IE *enter* > IIr *antar* > Skt *antaḥ*, Av *antarə* OP *a(n)tar* Lat *inter*.

136. Skt *r* has a promiment part in cerebralization. Cases have already been cited (**134**), where *r* is lost after cerebralization. But *n* was invariably cerebralized by *r (ṛ)* into *ṇ* in Skt, even when the *r (ṛ)* was not lost. e.g. Skt *parṇa-*, *karṇa-*, *tṛṇa-*, *pūrṇa-* etc.

136a. *n* was also cerebralized after *ṣ* e.g. *kṛṣṇa-* (**144**).

137. IE *l* > IIr *r* > Skt *r/l* (*r* is more frequent in early vedic for IE *l* (**130(b)**); Skt *r* < IE *l* has the same treatment with Skt *r* < IE *r*, as loss of *r* after cerebralization of dentals (**134**), final *r* > *ḥ* (**135**), and cerebralization of *n* > *ṇ* (**136**).

IE *leuqos/leuqes* > IIr *raukas/raucas* > Skt *lokaḥ, rokaḥ* (Vd), *rocaḥ, locana-* Av *racocō*, OP *rauca* 'day', Lith *laŭkas*, OCS *luča*, Gk *leukós* 'white', Lat *lūx*, OIrish *lōche*, Goth *liuhaþ*, OE *lēoht*, OHG *lioht*.

IE *labh* > IIr *rabh* > Skt *rabh* (Vd), *labh*, Gk *láphuron* (127).

IE *leubhos* > IIr *raubhus* > Skt *lobhaḥ*, Lat *lubet* etc (127).

IE *lip* > IIr *rip* > Skt *limpati, lepaḥ*, (Vd also) *repaḥ*, Lith *limpù*, OCS *pri-lĭ(p)nǫ*, cp Gk *lípos* 'fat', Ht *lipantsi*.

IE *l̥ngʷhus* > IIr *raghuṣ* > Skt *raghuḥ, laghuḥ*, Gk *elakhús*, Lat *levis* etc.

138. Skt *r/l* is sometimes substituted by a nasal by dissimilation; which is also paralleled in other IE languages. e.g. *cañcala-* for **calcala*, *cañcūryate* for **carcūryate*. (Skt *saṃsāra-* is normally derived from *sam-sāra-*; on semantanic basis it is preferable to derive it from **sar-sāra* intensive of √ *sr̥* 'move').

139. IE *m* > IIr *m* > Skt *m*

IE *mātēr* > IIr *mātā* > Skt *mātā*, Av *mātar-* Lith *mótė* 'wife', OCS *mati*, Alb *motrë* 'sister', Lat *mātēr*, Gk (Dor) *mā́tēr*, (Att-Ion) *mḗtēr*. OIrish *māthir*, OHG *muoter*, OE *mōdor*.

IE *moi* > IIr *mai* > Skt *me*, Av *mē*, OP *maiy*, Gk *moi* etc (50).

IE *nŏmn̥* > IIr *nāma* > Skt *nāma*, Av *nąma* OP *nāma*, Lat *nōmen*, Gk *ónoma*, Ht *laman* (*l* < *n* by dissimilation in Ht).

IE *menes* > IIr *manas* > Skt *manaḥ*, Av *manō*, Gk *ménos*.

IE *mē* > IIr *mā* > Skt *mā*, Av & OP *mā*, Arm *mi*, Alb *mo*, Gk *mḗ* (all meaning 'not').

140. IE *ms* > IIr *ns* > Skt *ṃs* (**143**).

IIr *ns* > Skt *n* when *-s* was dropped in a final position.

IE *rem-syetai* > IIr *ran syatai* > Skt *raṃsyate*, cp Lith *remsiu*.

IE *eg*^{w}*oms* > IIr *agans* > Skt *agan*

IE *dems* > IIr *dans* > Skt *dan* (Vd).

141. IE *m* > IIr *n* > Skt *n* before *t*, *th*, *d*, *dh*, *m*, & *v*. (In several other IE languages *m*>*n* before *t*, *th*, *d*, *dh*.)

IE *g*^{w}*om-tu* (Aor. impv)>IIr *gantu*>Skt *gantu*, cp Av *jantu* <IIr *jantu*<IE *g*^{w}*entu*.

IE *g*^{w}*om-tēr*>IIr *gantā*>Skt *gantā*

IE *g*^{w}*eg*^{w}*om-the*>IIr *jagantha*>Skt *jagantha*

IE *sem-dheiĝho-*>IIr *san-dhaižha-*>Skt *sandeha-*.

IE *yom-dhi*>IIr *yandhi*>Skt *yandhi*

IE *eg*^{w}*om-me*>IIr *aganma*>Skt *aganma* cp Av *χšąnmə̄ne* (<**χšąm-məne*).

IE *g*^{w}*eg*^{w}*omwōs*>IIr *jaganvās*>Skt *jaganvān* etc.

142. IE *n*>IIr *n*>Skt *n*

IE *nōmn̥*>IIr *nāma*>Skt *nāma*, Av *nąma*. OP *nāma* Lat *nōmen* etc (**139**).

IE *newos*>IIr *navas*>Skt *navaḥ*, OCS *novŭ*, Gk *néos*, Lat *novus*, Ht *newet*.

IE *g*^{w}*henti*>IIr *jhanti*>Skt *hanti*, Av *jainti*, Gk *theínō*, Ht *gwentsi* etc (**130a**).

IE *menos*>IIr *manas*>Skt *manaḥ*, Av *manō*, Gk *ménos*.

143. IE *ns*>IIr *ns*>Skt *ṃs*.

IE *ns*>Skt *n* when *s* was dropped in a final position; IE *ms* also became *ns* in IIr and had a similar treatment in Skt (**140**).

IE *k̂ens-* > IIr *šans-* > Skt *śaṃsati*, Av *sąh-* (cp gAv *sə̄ngha-*|*sə̄ŋha-*), Lat *cens-*.

IE *ĝhansos* > IIr *žhansas* > Skt *haṃsaḥ*, cp Lith *ząsis;* Gk *khḗn* < **khēns*, Lat (*h*)*anser.*

IE *tons* > IIr *tans* > Skt *tān* but *tāṃs-tān*, cp Av *tą*, Gk (dlct) *tóns*, Goth *þans.*

IE *gʷhensi* > IIr *jhansi* > Skt *haṃsi*, cp Ht *gwesi* < **gwensi.*

IE *omso-* > IIr *ansa-* > Skt *aṃsa-*, cp Goth *amsa-* .

IE *remsyetai* > IIr *ransyatai* > Skt *raṃsyate*, cp Lith *rem̃siu.*

144. IE *n* > IIr *n* > (but) Skt *ṇ* when *r̥̄*, *r* or *ṣ* preceded and *y*, *w*, *m*, *n* or a vowel followed.

IE *qr̥neuti* > IIr *kr̥nauti* > Skt (Vd) *kr̥ṇoti*, Av *kərənaoiti*, cp Gk *kraínō.*

IE *tr̥nom* > IIr *tr̥nam* > Skt *tr̥ṇam*, cp Goth *þaurnus*, OE *þorn*, OHG *dorn.*

IE *pl̥̄nos* > IIr *pr̥̄nas* > Skt *pūrṇaḥ*, cp Av *pərənō*, & Gk *polloí.*

IE *orno-* > IIr *arna-* > Skt *arṇa-*, cp Ht *arunas.*

IE *qr̥snos* > IIr *kr̥šnas* > Skt *kr̥ṣṇaḥ*, cp OCS *črĭnŭ.*

Similarly Skt *nr̥̄ṇām*, *pitr̥̄ṇām*, *karṇa-*, *s*(*u*)*varṇa*, *deṣṇa-* etc.

144a. Cerebralization of *n* into *ṇ* was effective not only when *r̥̄*, *r*, *ṣ* preceded immediately, but also when the following sounds intervened : any vowel, any velar stop, any labial stop, *ṅ*, *m*, *y*, *v* or *h.*

IE *bheromēnos* > IIr *bharamānas* > Skt *bharamāṇaḥ*, cp Av *baramnō*, Gk *pherómenos.*

IE *ghr̥bhnāti* > IIr *ghr̥bhnāti* > Skt *gr̥bhṇāti.*

IE *lineqʷti* > IIr *rinakti* > Skt *riṇakti* Av *irinaxti* Arm *lkᶜauem*, Gk *leípō*, Lat *linquō*, Goth *leiƕa*, Lith *lëkù.*

Similarly Skt *rugṇa-*, *kr̥pāṇa-*, *gr̥hṇāti*, *vareṇya-*, *karmaṇā*, *rāvaṇa-*, *nārāyaṇa-* .

144b. Cerebralization was ineffective, when the following sound was other than *y*, *w*, *m*, *n* or a vowel, e.g. *karman* (with

NIL following), (but cp *karmaṇi*), *bharanti* (with *t* following) (but cp *bharaṇa-*, *bhṛṇa-* etc.).

144c. Cerebralization was ineffective, when the intervening sound (Vide **144a**) was a palatal (except *y*) or a cerebral stop. e.g. *racanā-*, *rocana-*, *purāṇānām*, *duṣṭānām*, *dakṣiṇāyana-* (but *uttarāyaṇa-*) etc.

144d. Often a prefix containing *r* (including *r*<*s*) cerebralized the *n* of a following prefix or a root. e.g. *pra-ṇi-patati* (<IIr *pra-ni-patati*<IE *pro-ni-peteti*), *pra-ṇi-dhāna*, *pra-ṇamati*, *pari-ṇāma-*, *nir-ṇaya*, *prāṇa-* (<*pra*+*ana*) etc.

144e. In compounds *ṝ*, *r*, *ṣ* of a preceding member often cerebralized *-n-* of a following member. e.g. *uttarāyaṇa-* (but in *dakṣiṇāyana-* cerebralization is barred by *-ṇ-* of the preceding member **144c**), *pūrvāhṇa-*, *vṛtrahaṇam* etc.

144f. In vedic cerebralization was also effective in a following uncompounded enclitic word, which was treated as one unit with the preceding accented word, e.g. *prá ṇaḥ*, *índra eṇam* etc.

144g. *nn*>*ṇṇ* in several words. e.g. *ni-ṣaṇṇa-* (<*ni-san na-*<**ni sad-na-*), *viṣaṇṇa-*.

144h. *ṇ* is always found before cerebral stops even without the conditions deseribed in **144**, e.g., *kaṇṭaka-*, *kaṇṭha-*, *muṇḍa-*, *ṣaṇḍha-*, etc. In these cases the cerebralization is of obscure origin. In some of such words, the cerebralization may be due to a lost *r*/*ṛ* (**134**).

145. IE *mr, ml, nr (& nl)* in Skt.

In some IE historical languages a voiced stop often appeared as a glide in such conjuncts of a nasal and a liquid. In Greek *mr*>*mbr* and initially *br*, *nr*>*ndr* and initially *dr* etc. But in IIr and consequently in Skt such development did not occur. IE *m r& ml*>IIr *mr*>Skt *mr*/*ml*; and IE *nr* & *nl*>IIr *nr*>Skt *nr*/*nl*. In Skt howevei *nr* is very rare and *nl* is not quotable.

IE *mr-iye-tai* (√*mer* 'die') > IIr *mriyatai* > Skt *mriyate* (cp perfect *mamre* etc), cp OCS *mretĭ*, Gk *brotós* < **mrotos*, cp OP *amriyata*.

IE *nr-* (weak grade of *ner-* 'man') > IIr *nr-* > Skt *nr-* in cl *nr-adhīśa-*, *nr-asthi-* etc, and grammatical dat *nre*, loc *nri* etc. cp Gk *andri* < **anri* etc.

Similarly Skt *āmra-*, *amla-*, *kamra-*, *namra-* (cp Av *nəmra-*), *vamra-* etc.

145a. In MIA *mr*, *ml* and *nr* etc developed *b* and *d* glides like Greek, if they were not assimilated, e.g. *āmra-* > **ambra-* > *amba-* etc. In one or two cases Skt also presents Prakritisms. e.g.

IE *mlūdhi* > IIr *mrūdhi* > Skt *brūhi* for **mrūhi* cp Av *mrūiδi* cp OCS *mlŭviti*. In Skt all forms of this root have *br* e.g. *bravīti* etc. Cl Skt *sundara-* beside Vd *sūnara-* has a parallel type of development cp Skt *vānara* = NIA **bāndara* (Oriya *bāndara*, Hindi *bandar*, Bengali *bādar* etc).

146. IE *n* > IIr *n* > Skt *ñ* after *c* &*j*. e.g. Skt *yācñā* (< **yāc-nā*; according to Wackernagel < **yāc–nyā*), *jñāna-* (< IIr *žnāna-* < IE *ĝnōno-*), *yajña-* (< IIr *yažna-* < IE *yaĝno-* cp Av *yasnō*, Gk *hagnós*), *jñu-* (< IIr *žnu* < IE *ĝnu*, cp Av *-snu-*, Gk *gnu-* etc beside Skt *jānu* < IE *ĝēnu* etc 82).

147. IE *n* > IE *n̂* before IE *k̂*, *k̂h*, *ĝ*, *ĝh*

IE *n̂* > IIr *n* (before *š*, *šh*, *ž*, *žh* which developed respectively from IE *k̂*, *k̂h*, *ĝ*, *ĝh*) > Skt *ṃ* before *ś* (< IIr *š*) and *h* (< IIr *žh*); and *ñ* before *j* (< IIr *ž*) and *ch* (< IIr *šh*); also *ñ* before *jh* < IIr *žh*, wherever such *jh* was retained).

IE *on̂k̂os* > IIr *anšas* > Skt *aṃśaḥ*, Av *ąsa-*, Gk *óŋkos*.

IE *ēnen̂k̂a* > IIr *ānanša* > Skt *ānaṃśa*, Gk *éneŋka* 'I brought', cp Lat *nancīscor*.

IE *den̂k̂* > IIr *danš* > Skt *daṃśanam*, Gk *daŋkánō* (cp *dáknō* < IE *dn̥k̂*), OE *tonge*, OIcel *tǫng*, OHG *zanga* 'tongs', *zangar* 'biting'.

IE *sinĝhos* > IIr *sinžhas* > Skt *siṃhaḥ* 'lion', Arm *inj(inc)* 'leo-pard'.

IE *anĝhes* > IIr *anžhas* > Skt *aṃhas* 'distress', Av *ązō* 'distress', Arm *anjuk* 'narrow', Lat *angor*, Gk *aŋkhō* 'I lie', OIrish *cum-ung* 'narrow', Goth *aggwus* 'narrow', OHG *engi*, OE *enge* 'narrow', OCS *ąza* 'string, fetter'.

IE *dhr̥nĝheti* > IIr *dhr̥nžhati* > Skt *dr̥ṃhati* (besides Skt *dr̥ḍha-* < IE *dhr̥ĝh* + *to-* etc 85).

IE *r̥nĝeti* (IE √*reĝ/renĝ*) > IIr *r̥nžati* > Skt *r̥ñjati*, cp Av *raz-* 'straighten', cp Gk *orégō*, Lat *regō*, Goth *ufrakjan* 'strech up'.

148. IE *n* > IE *ŋ* before *q*, *qh*, *g*, *gh* and (*ŋ* or $ŋ^w$ before) q^w, q^wh, g^w, g^wh (IE *n* perhaps > $ŋ^w$ befor q^w etc but *ŋ* is written instead, in reconstructions).

IE *ŋ* > IIr *ŋ* > Skt *ṅ* before velars *k*, *kh*, *g*, *gh*. IE *ŋ* > IIr *ñ* > Skt *ñ* before palatals *c*, *ch*, *j*, *jh*; IIr *ñ* > Skt *ṃ* before *h* (< IIr *jh*) whenever *jh* > *h* in Skt.

IE *k̂eŋq* > IIr *šaŋk* > Skt *śaṅkā*, Ht *kanki*, cp Goth, OHG, OSax *hāhan*, OE *hōn* NE *hang* etc < Gmc *χaŋχanan*.

IE *k̂oŋqhos* > IIr *šaŋkhas* > Skt *śaṅkhaḥ*, Gk *kóŋkhos*, Lat *congius*.

IE *peŋq^we* > IIr *pañca* > Skt *pañca*, Av *panca*, Gk *pente*, Lat *quinque*, Arm *hing* etc.

IE *aŋg^w* > IIr *aŋg*, *añj* > Skt *añjana-*, *aṅga-*, Lat *unguō*, OIrish *imm* (< **imb-*), OHG *ancho* 'butter'.

IE *ĝheŋgh* > IIr *žhaŋgh* > Skt *jaṅghā* Av *zaŋga-* 'heel bone', Lith *žengiu* 'I stride', Goth *gaggan* 'go', OE & OHG *gangan* 'go' etc.

IE *bhaŋg* > IIr *bhaṅg-/bhañj-* > Skt *bhaṅga-*, *babhañja*, cp OIrish *com-boing* (cp Gk *phag-* < IE *bhag* without nasal infix vide 91 under IE *bhāgos*).

IE *leŋgh* > IIr *raŋgh-*/*rañjh* > Skt *laṅghana-*, *raṃhayati* cp Av *rənjayeiti*, cp Lat *longus*, OHG & OE *lang*, ONorse *langr*, Goth *laggs*.

148a. IE *n* > IIr *m* > Skt *m* before labials. e.g. Skt *limpati* (< √*lip*; Ht *lipantsi*), *lambamāna-* (√*lab*), *ārambh* (< √*rabh*) etc with nasal infix *n* > *m*.

CHAPTER XIII

Indo-European Spirants

149. IE Spirants

IE had practically one spirant phoneme namely *s*, which became *z* when assimilated by a following voiced stop. Dialectally also a preceding voiced stop assimilated a following *s* into *z*, which is chiefly retained in Old Iranian (Vide 74 c-ii). Besides reconstructions of IE θ and δ (which are the corresponding slit fricatives) are required in some cases, where some IE languages show a dental stop, which corresponds to a sibilant in other IE languages.

149a. Thus IE *s*>*z* before voiced sounds : (e.g. *zĝ*, *zĝh*, *zg*, *zgh*, zg^w, zg^wh, *zd*, *zdh*, *zb*, *zbh*<*s-ĝ* etc.) and dialectally after voiced aspirates : (e.g. *ĝhz*, *ghz*, g^whz, *dhz*, *bhz* besides respectively *k̂s*, *qs*, q^ws, *ts*, *ps* in other dialects<*ĝh-s* etc.) IE *s* does not become *z* after voiced non-aspirates in any dialect : e.g. IE *ĝ-s*>*k̂s* (and never *ĝz*), *g-s*>*qs*, $g^w s > q^w s$, *d-s*>*ts*, *b s*>*ps* Vide 84(a) etc.).

150. IIr Spirants

IE θ and δ fell together, respectively with IE *s* and *z* in IIr. In other words IIr shows identical treatment for IE *s* and θ as well as for IE *z* and δ. The following additional spirants are new developments in IIr : *š* (<IE *k̂* 77), *šh* (<IE *k̂h* 80), *ž* (<IE *ĝ* 82), *žh* (<IE *ĝh* 86), *ṣ̌* (<IE *s* preceded by *i*, *u* etc 153 and <IE *k̂* followed by *t*, *th* 78 & 78a), *ẓ̌* (<IE *z* preceded by *i*, *u* etc 157 and <IE *ĝ* followed by *d*, *dh* 84 and 85).

151. Skt Spirants

IIr spirants *šh*, *ž*, *žh* became *ch* (80), *j* (82), & *h* (86) respectively in Skt; IIr *z* & *ẓ̌* are lost in Skt. IIr *s* > Skt *s*;

IIr $\check{s}$ > Skt $ṣ$, IIr $\check{s}$ > Skt $ś$. Thus Skt has only three spirant sounds viz., *ś*, *s*, *ṣ*.

152. IE *s* > IIr *s* > Skt *s*

IE *s* was retained as *s* in many IE languages and it became *h* in several IE languages like Gk and Iranian.

IE *so*/*sos* > IIr *sa*/*sas* > Skt *sa*/*saḥ*, Av *hō*, Gk *ho*, Goth *sa*, Ht *sas*.

IE *septm̥* > IIr *sapta* > Skt *sapta*, Av *hapta*, Arm *evtʿn*, Lith *septynì*, OCS *sedmĭ*, Gk *heptá*, Lat *septem*, Goth *sibun*, OIrish *sech n-*.

IE *sthāno-*, *sthətis* > IIr *sthāna-*, *sthitiš* > Skt *sthāna-*, *sthitiḥ*, Av *stāna-*, Arm *stanam*, Gk *dustēno-*, *stásis*, Lat *statio*, Goth *staþs*, Lith *stónas*, OCS *stanŭ*.

IE *menesos* > IIr *manasas* > Skt *manasaḥ*, Av *manaŋhō*, Gk *méneos*.

IE *esi* > IIr *asi* > Skt *asi*, Av *ahi*, OP *ahiy*, Gk *eî*.

IE *bheresi* > IIr *bharasi* > Skt *bharasi*, Av *barahi* OP *barahiy*, Goth *bairis*.

152a. IE *s* > IIr *s* > Skt *ḥ* finally in a sentence and sometimes before certain voiceless plosives.

IE *wl̥qʷos* > IIr *vr̥kas* > Skt *vr̥kaḥ*, Av *vəhrkō*, cp Gk *lúkos*.

153. IE *s* > IIr $\check{ṣ}$ > Skt *ṣ*, when it was preceded by a vowel (except *ă*), *k*, *r*, *ṣ*. This change of *s* > *ṣ* undoubtedly started much earlier than the Indo-Aryan stage of IE. It is perfectly traceable from the IIr stage, where also IE *s* has become $\check{ṣ}$ (= Skt *ṣ*, Av *š*, OP *š*), when preceded by a vowel (except *ă*), *k*, *r*, $\check{ṣ}$. IIr *š* (< IE *k̂*) was distinct from this $\check{ṣ}$ (< IE *s*) and the distinction is also maintained clearly in Skt, Av & OP in the forms of Skt *ś*:*ṣ*, Av *s*:*š*, OP *θ*:*š* respectively. In other cases IE *s* (which was not palatalized) became Skt *s*, Av *h*, & OP *h* respectively in contrast to the above. Moreover IIr *š* (< IE *k̂*) also became $\check{ṣ}$, when it was followed by *s*, *t*, or *th* sounds (IE *k̂s* = IIr $\check{ṣ}\check{ṣ}$ 79; IE *k̂t*/*k̂th* = IIr *ṣt*/*ṣth* 78). Thus IIr clearly

represents *š* and *ṣ̌* (both of which are unfortunately termed as palatal although *š* might have been frontal or uttered in the hard palate like Skt *ś*, and *ṣ̌* might have been back-palatal or uttered in the soft palate like Skt *ṣ*) : This palatalization (or cerebralization) of *s* into *ṣ̌* which is clearly traceable upto IIr is also partly traceable to the Satəm stage of IE. OCS shows *ch* which always corresponds to Skt *ṣ* in almost all cases. Thus OCS illustrates a change of IE *s* to *ch* (<*ṣ̌*). In Lithuanian *s*>*š* after *r*. In Armenian also *s*>*š* after *r* (as attested in Arm *t*ᶜ*aršamim* 'wither', cp Skt *tṛ̥ṣā*, Gk *térsomai*, Goth *ga-þairsan* etc., or in Arm *k*ᶜ*aršem* 'drag' cp Skt *karṣaṇa* 'pull, plough' etc), but in course of time this *š* was lost changing *r* to *ř* (cp Arm *t*ᶜ*ařamin*<earlier *t*ᶜ*aršamim* cited above). In Albanian, where the record is almost identical with a modern IE language *rs*>*rr* and therefore the evidence of palatalization is missing.

Thus on the basis of the evidence citable from IIr, Balto-Slavic, and Armenian, one is naturally tempted to conclude that IE *s*>*ṣ̌* in Satəm after *r*. All the Satəm languages distinguish this *ṣ̌* from *š* (<IE *k̂*). IIr and OCS further extended the palatalization (or cerebralization) to other cases, where *s* was preceded by *i*, *u*, *ṛ̥* etc as stated above.

IE *k̂s*, *qs* and *q*ʷ*s* fell together in Skt and became *kṣ*, whereas in Iranian and OCS the distinction of *k̂s* with *qs*/*q*ʷ*s* was maintained. IE *k̂s*>Av & OP *š*, OCS *s* and IE *qs*/*q*ʷ*s*>Av *χš* OCS *ch*. Skt *kṣ*<IE *k̂s* seems strange. IE *k̂s* should have become **ṣṣ* in Skt (like *k̂t*>*ṣṭ* 78). But *ṣṣ* (<*ss* preceded by *i*, *u*, *ṛ̥* etc.) also became *kṣ* in Skt e.g. Skt *dvekṣi*<**dveṣ-ṣi*; IE *k̂s* also probably first of all became **ṣṣ* and then *kṣ*, through *ṣ*ᵏ*ṣ* with a -*k*- glide. IE *ss* (preceded by *i*. *u* etc.) & *k̂s* also sometimes become *ṭṣ* in Skt through *ṣṣ*>*ṣṭṣ*>*ṣṭṣ*>*ṭs*, with *t* glide (like *ss*>*s*ᵗ*s*>*ts*).

Skt shows *ḥ* for *ṣ*, when this is in a final position (like *s* 152a); e.g. *ovih*<IE *owis* cp Gk *ois*. Vedic sandhi often restores original *ṣ*. Av & OP retain original *š* quite systematically.

(i) *s* > *ṣ* after vowels (except *a* or *ā*)

Skt *tiṣṭhati*, *atiṣṭhata* < IIr *sthišthati*, *asthišthato*, cp Av *hištaiti*, OP *a(h)ištata* < IE *sthistheti*, cp Gk *histāmi*.

Skt *triṣu* < IIr *trišu* cp Av *θriš* (< IIr *triš*), cp OCS *trĭchŭ*, < IE *trisu* cp Gk *trisí*.

Skt *śuṣka-*, *śoṣa-* < IIr *suška-*, *sauš-*, cp Av *huška-*, OP *(h)uška-*, < IE *susqo-*, *sauso-* cp Gk *aûos*, Lith *saũsas*, OCS *suchŭ*.

Skt *sūnuṣu*, *vasuṣu*, < IIr *sūnušu*, *vasušu*, cp Av *vaŋhušu*, < IE *sūnusu* etc, cp OCS *synŭchŭ*.

Skt *dhṛṣṇomi*, *adhṛṣṇot* < IIr *dhṛšnaumi*, *adhṛšnaut* cp Av *dərəšnaomi* OP *adaršnauš* < IE *dhṛsneumi* etc. cp Gk *tharsús*, Goth *ga-daúrsan* etc.

Skt *tṛṣṇā* < IIr *tṛšnā* < IE *tṛsnā* cp Gk *térsomai*, Goth *ga-þairsan*, Av *taršnō* Arm *tᶜaršamim/tᶜaṙamim* etc < IE *ters-*.

Skt *mātṛṣu* < IIr *mātṛšu* < IE *mātṛsu* cp OCS *materĭchŭ*, Gk *mētrási*.

Skt *vṛkeṣu* < IIr *vṛkaišu* < IE *wḷqʷoisu*, cp OCS *vlŭcechŭ*, Gk *lúkoisi*.

(ii) *s* > *ṣ* after *r* (< IE *r/l*)

Skt *varṣīyas-* 'bigger' < IIr *varšīyas-* < IE *wersīyes* cp OCS *vrĭchŭ* Lith *viršùs* cp Lat *verrūca*.

Skt *varṣa-* 'rain' < IIr *varša-* < IE *werso-* cp Gk *hérse*.

Skt *dharṣaṇa-* < IIr *dharšana-* < IE *dherseno-* cp Skt *dhṛṣ-* etc above (i).

(iii) *s* > *ṣ* after *k*

Skt *ukṣan* 'bull' < IIr *ukšan-*, cp Av *uxšan-* < IE *uqsen*, cp Goth *aúhsa*, OE *oxa* OHG *ohso*.

Skt *vakṣyāmi* 'I shall speak' < IIr *vakšyā(mi)* cp Av *vaxšyā* < IE *weqʷsyō*, cp Lat *vōx* & Gk *ṓps* (< IE *wōqʷs*).

Skt *vakṣyāmi* 'I shall carry' < IIr *vaṣ̌ṣ̌yā(mi)* < IE *wek̑-syō* < IE *weĝh-syō*, cp Skt *vahati* < IE *weĝheti* (86).

Skt *dakṣiṇa-* < IIr *daṣ̌ṣ̌ina-*, cp Av *dašina-* < IE *dek̑sino-*, cp OCS *desinŭ*, Lith *dešinė*, cp also Gk *deksiós*, Lat *dexter*, Goth *taihswa*.

153a. There are some cases where even an intervening *ṃ* does not prevent cerebralization e.g. Skt *havīṃṣi*, *dhanūṃṣi*, *piṃṣati* etc. and there are also cases where *ṃ* prevents cerebralization. e.g. *hiṃsā*, *puṃsām* etc. Some consider *havīṃṣi* etc to be regular forms and *hiṃsā* etc as analogical formations after *hinasti pumāṃsam* etc. But historically it is more probable that *hiṃsā* etc are regular forms and *ṃ* prevented cerebralization in such cases. And forms like *havīṃṣi*, *dhanūṃṣi* which are definitely innovations in Skt (with a non-etymological *ṃ*) had cerebralization much before the *ṃ* was introduced analogically (479). Forms like *piṃṣati* might have cerebralized *s* due to influence of *piṣṭa* etc.

153b. A following *r* or *r̥* prevented cerebralization of *s* > *ṣ* in Skt because of its dissimilatory effect. This is not the case with Av even. e.g. Skt *tisraḥ* (but Av *tišrō*), *tisr̥bhiḥ* etc. So also Skt *sarīsr̥paḥ*, *sisrate*, *vistr̥ta-* etc.

There are also other exceptional cases, where cerebralization is ineffective :

(i) in some words due to dissimilation e.g. *sisakṣi*, but *siṣakti* (√*sac*), (ii) in some obscure words *bisa*, *busa*, *br̥sa-*, *r̥bīsa*, *kusīda*, *kusuma*, etc. (which may be cases of Prakritism in OIA).

153c. Skt shows *ṣ* after *a*, *ā* also when *ṣ* is followed by *ṭ*, *ṭh*; such *ṣ* is a normal development out of *ś* (< IE *k̑*) before *t*, *th* (78). Besides there are also some cases where an original *r* is lost after cerebralization e.g. *bhāṣā*, *pāṣāṇa-* (134).

153d. Skt *ṣ* cerebralized a following *t*, *th*, *n* > *ṭ ṭh* & *ṇ* e.g. Skt *puṣṭa-*, *dr̥ṣṭa- dhr̥ṣṭa*, *tiṣṭhati*, *dhr̥ṣṇoti*, *kr̥ṣṇa* < IE *qr̥snos* cp OCS *črĭnŭ*).

154. IE *s* > IIr *š* > Skt *ś* (Av *s* OP *š*) before *c*, *ch*

IE *(e)sesqʷetom* > IIr *(a)saščatam* > Skt *asaścatam;* Similarly Skt *saścima* etc (beside Skt *sacate*, Av *hacaite*, Gk *hepétai* < IE *seqʷetai*).

IE *wl̥qʷos-qʷe* > IIr *vr̥kaš-ca* > Skt *vr̥kaśca*, Av *vəhrkas ca*, cp OP *aniyaš-ca* (= Skt *anyaś-ca*), Gk *lúkos-te* Lat *lupus-que.*

IE *qʷos-qʷid* > IIr *kaš-cid* > Skt *kaścit*, Av *kas-cit*, OP *kaš ciy*, cp Gk *hóstis* < IE *yos-qʷis* = Skt **yascih̩.*

154a. IE *s* > IIr *s* > Skt *ś* sometimes by assimilation when *ś*/*s̩* was in the preceding or following syllable.

IE *swek̂uros* > IIr *svašuras* > Skt *śvaśurah̩* Av *χᵛasurō*, Gk *hekurós*, Lat *socer* etc.

IE *sausos* > IIr *saus̩as* > Skt *śos̩ah̩*, Av *haos̩a-*, Gk *aûos*, Lith *saũsas.*

IE *susqo-* > IIr *sus̩ka-* > Skt *śus̩ka-*, Av *huška-*, OP *(h)uška* etc.

IE *k̂asos* > IIr *šasas* > Skt *śaśah*, OE *hara*, OHG *haso.*

154b. IE *s* > IIr *s* > Skt *s̩* sometimes when the next syllable had *s̩* or *z̩* in IIr.

Skt *s̩as̩* , *s̩at̩* (Nom sg) (< IIr *saš-*, *sašš* < IE *sek̂s* etc) Skt *s̩od̩aśa* (< IIr *saždaša*), Skt *s̩od̩ha-*, *s̩ād̩ha-* (< IIr *saždha* < IE *seĝdho-* < *seĝh* + *to-*).

155. IE *ss* > IE *s* (optionally) > Skt *s*

IE *es-si* > IE *esi* > IIr *asi* > Skt *asi*, Av *ahi*, OP *ahiy*, Gk *eî* (but Homeric Gk also *essí*).

IE *n̥s-sme-* > IE *n̥sme-* > IIr *asma-* > Skt *asma-* (as in *asmān*) Av *ahma*, Gk (Lesb) *amme.*

IE *eñĝhessu* > IE *eñĝhesu* > IIr *anžhasu* > Skt *am̩hasu*, Av *ązahu.*

155a. IE *ss* > IIr *ss* > Skt *ts* in some cases. Perhaps *ss* > *sts* > *ts.* e.g.

IE *wessyō* > IIr *vassyā(mi)* > Skt *vatsyāmi* (√*vas* 'clothe' < IE *wes*).

IE *ghi-ghos-se-ti*>IIr *jhighassati*>Skt *jighatsati* (√*ghas* 'eat'<IE *ghes*).

IE *wid-wes su*>IIr *vidvassu*>Skt *vidvatsu* (but Skt *vidvatsu* may also be derived from IIr *vidvatsu*<IE *widwetsu* from a heteroclitic stem *widwet* with inffix -*wet* beside -*wes* as also attested in Gk *eidótos*).

155b. IE *ss*>IIr *ss*>Skt *ss*/*ḥs* in some cases (specially with loc pl of -*s* stems) e.g.

IE *menes-su*>IIr *manassu*>Skt *manassu*, *manaḥsu* (beside Vd. *amhasu* 155) cp Gk *ménessi*, *ménesi*.

IE *weqʷes su* > IIr *vacassu* > Skt *vacassu*, *vacaḥsu*, cp Gk *épessi*, *épesi*.

Forms like Skt *manaḥsu*, *vacaḥsu* etc retain -*ḥ*- due to influence of Nom sg forms like *manaḥ*, *vacaḥ* etc.

155c. IE *ss*>IIr *šš*, when preceded by *i*, *u*, *ṛ* etc. (153). This fell together with IIr *šš*<IE *k̂s* (79) and had a similar treatment in Skt.

(i) IIr *šš* (<IE *ss*)>Skt *kṣ* often

IE *dweissi*>IIr *dvaišši*>Skt *dvekṣi* (cp Skt *dikṣu*<IIr *dišsu*<IE *dik̂su* 79).

(ii) IIr *šš* (<IE *ss*)>Skt *ṭṣ* sometimes

IE *dwissu*>IIr *dviššu*>Skt *dviṭsu* (cp Skt *viṭsu*<IIr *viššu*<IE *wik̂su* 79b).

(iii) II *šš* (<IE *ss*)>Skt *ṣṣ*/*ḥṣ* sometimes

IE *ĝhewissu* > IIr *žhaviššu* > Skt *haviṣṣu*, *haviḥṣu* (Forms like *haviḥṣu* etc are due to influence of Nom sg forms like *haviḥ* etc).

(iv) IIr *šš* (<IE *ss*)>Skt (Vd) *ṣ* rarely (like *ss*>*s* 155).

IE *ĝeus-si*(*ĝeusi*)>IIr *žaušši*(*žauši*)>Skt (Vd) *joṣi* (In early RV only).

156. IE mobile *s*

IE initial *s-* seems to have been often optionally dropped, hence several cognates occur with or without initial *s-* . This *s-* is conveniently termed as mobile *s-* or *s-* movable. Such cognates might be having *s-* originally, which was sometimes subject to loss because of the presence of an *-s* in a final position of the preceding word as IE *ss* could become *s* optionally (155). For example IE *eḱwos speḱyeti* > IE *eḱwos peḱyeti* > Skt *aśvaḥ paśyati*, beside IE *tod speḱtom* > IE *tot speḱtom* > Skt *tat spaṣṭam*. Gradually in course of time a form with or without initial *s-* was generalized and was not restricted to the above sandhi situations.

A few such forms may be cited here where the cognates sometimes show and sometimes donot show the initial *s-*.

IE *speḱ* (cp Skt *spaṣṭa-*, *spaś-*, Lat *speciō*, OHG *spehōn*) : IE *peḱ* (cp Skt *paśyati*) etc.

IE *stay* (cp Skt *stena*, *stāyu-*) : IE *tay* (cp Skt *tāyu-*, Av *tāyu-*, OCS *tajŭ*, Gk (Dor) *tātáō*, Ht *tayatsi*).

IE *sten* (cp Skt *stanitam*, OCS *stenjǫ*, Gk *sténō*) : IE *ten* (cp Skt *tanyati*, Lat *tonāre*).

IE *ster* (cp Skt *stṛ*, Av *stəhr*, Gk *astḗr*, Lat *stella*, Ht *star*, Goth *stairnō*, OHG *stern* etc) : IE *ter* (Skt *tārā*).

IE *sthā* (cp Skt *sthitaḥ*, *sthānaḥ*, Av *stāna*, Gk *statós*, Lat *status*, Goto *staþs*) : IE *thā* (cp Skt *tiṣṭhāmi*; Ht *titami*).

157. Treatment of IE *z* in IIr & Skt

IE *z* which was preserved in IIr (and consequently in Iranian), was invariably lost in Skt, although sometimes it effected the neighbouring sound before being lost. (IE *z* is however maintained in the names of some roots in Skt by the traditional grammarians, where it is orthographically represented by *s*; e.g. Skt √*masj* = *mazj*, Skt √*lasj* = *lazj*, Skt √*bhrasj* = *bhrazj* etc; these indicate that the grammarians were probably aware of the dying sound).

IE *z* besides being retained as *z*, became *ẓ̌* in IIr, when it was preceded by *ĭ*, *ŭ*, *r̥̆*, *ĝ*, *g*, g^w. This IIr *ẓ̌* fell together with the other IIr *ẓ̌*, which developed out of IE *ĝ* followed by *d*, *dh*. Thus IIr *ẓ̌* has a two-fold origin (i.e. <IE *z* & *ĝ*) like IIr *ṣ̌*, which has developed out of IE *s* and *k̂*. IIr *ṣ̌* became *ṣ* in Skt and cerebralized a following *t*, *th*, *n* into *ṭ*, *ṭh*, *ṇ* (153d). But IIr *ẓ̌* was lost in Skt after cerebralizing *d*, *dh* into *ḍ*, *ḍh*.

Thus IIr *z* and *ẓ̌* are invariably lost in Skt. But they have effected the preceding vowels (164). IIr *ẓ̌* has further effected the following dentals by cerebralizing them. In some cases the loss of IIr *z* and *ẓ̌* is made up by development of dental and cerebral glides respectively.

IIr *z* & *ẓ̌* present the following developments in Skt, when followed by different classes of plosives :—

IIr *zg(h)* > *z^dg(h)* > Skt *dg(h)*
IIr *zb(h)* > *z^db(h)* > Skt *db(h)*
IIr *ẓ̌g(h)* > *ẓ̌^{d}g(h)* > Skt *ḍg(h)*
IIr *ẓ̌b(h)* > *ẓ̌^{d}b(h)* > Skt *ḍb(h)*

IIr *zd(h)* > *zdd(h)* > Skt *dd(h)* or *d(h)* with compensatory lengthening of the preceding vowel.

IIr *ẓ̌d(h)* > *ẓ̌^{d}d(h)* > Skt *ḍḍ(h)* or *ḍ(h)*, with compensatory lengthening of the preceding vowel.

IIr *ẓ̌* (<IE *z* when preceded by *i*, *u* etc) became *r* in Skt. when it was in a final position in a word; and also sometimes before *-bh* sound, within a word.

157a. IE *s* (which became *z* before voiced consonants) remained *s* in IE before vowels in external sandhi also. But IE *s* became *z* & *ẓ̌* (depending on the preceding sounds) in IIr even before vowels (which are also voiced sounds) in external sandhi. This sandhi is amply quotable from Skt; only a few traces are available in Av, where there is a lot of generalization of particular situations.

158. IE *zg*/*zg*^{w} > IIr *zg* > Skt *dg* (< *$z^{d}g$)

IE *mezgus* > IIr *mazguṣ* > Skt *madguḥ*, 'an aquatic bird' cp Lat *mergus* 'diver, gull' (Vide 159 for more cognates).

159. IE *zg*/*zg*^{w} (followed by palatal vowels) > IIr *zj* > Skt *jj* (perhaps *zj* > *$z^{d}g$ > **dj* > *jj*).

IE *mezgeti* > IIr *mazjati* > Skt *majjati* 'dives', *majjā* 'marrow', Av *mezga*, Lat *mergō*, Lith *mazgóti* 'to wash', OCS *mozgŭ* 'marrow'.

160. IE *zb(h)* > IIr *zb(h)* > Skt *db(h)* (perhaps *zb(h)* > *$z^{d}b(h)$* > *db(h)*)

IE *mn̥zbhis* > IIr *māzbhiṣ* > Skt *mādbhiḥ* (besides Skt *mās*- 'month' < IE *mn̥s*).

IE *widwez-bhis* > IIr *vidvazbhiṣ* > Skt *vidvadbhiḥ* (but *vidvadbhiḥ* may also be < IE *widwedbhis* with a heteroclitic stem 155a).

161. IIr *ẓ̌b(h)* (< IE *zb(h)* preceded by *i*, *u* etc. or < IE *ĝb(h)* etc.) > Skt *ḍb(h)* (< *$\check{z}^{d}$b(h)*).

IE *dwiz bhis* > IIr *dviẓ̌bhiṣ* > **dviẓ̌^{d}bhiṣ* > Skt *dviḍbhiḥ*.

IE *reĝbhis* > IIr *rāžbhiṣ* > Skt **rāẓ̌^{d}bhiṣ* > Skt *rāḍbhiḥ*.

IE *wiĝbhyos* > IIr *viẓ̌bhyas* > *viẓ̌^{d}bhyas* > Skt *viḍbhyaḥ*, cp Av *vižibyō* < **vižbyō*.

161a. IIr *ẓ̌bh* > Skt *rbh* sometimes

IE *ĝhewizbhis* > IIr *žhaviẓ̌bhiṣ* > Skt *havirbhiḥ*.

162. IE *zd*(*h*) > IIr *zd*(*h*) > Skt *dd*(*h*) or *d*(*h*).

IE *nezdistho*- > IIr *nazdiṣtha*- > Skt *nediṣṭha*-, Av *nazdišta*-.

IE *ezdhi*/*zdhi* > IIr *azdhi*/*zdhi* > Skt *edhi*, Av *zdī*, cp Gk *ísthi*.

IE *ēzdhwom* > IIr *āzdhvam* > Skt *āddhvam* cp Gk *ésthe* (< IE *ēzdhwe*) and Ht *estuma* (= *ezduma*) < IE *ēzdhum*.

163. IIr *ẓ̌d*(*h*) (< IIr *zd*(*h*) preceded by *i*, *u* etc or < IE *ĝd*(*h*) etc) > Skt (*ḍ*)*ḍ*(*h*).

IE *nizdo-* (<IE *ni-sed-o-*)>IIr *niẓda-*>Skt *nīḍa-*, Arm *nist*, Lat *nīdus*, OIrish *net*, OHG *nest*, OE *nest*.

IE *mizdhos* > IIr *miẓdhas* > Skt *mīḷhaḥ*, Av *miždō*, Gk *misthós*, Goth *mizdō*, OE *meord*.

IE *uĝdhos* (<IE *uĝh-to-s*)>IIr *uẓdhas*>Skt *ūḍhaḥ*.

163a. IE *s*>IIr *z/ẓ* before vowels in external sandhi 157a).

IE *dus-ito-*>IIr *duẓita-*>Skt *durita-*, Av *dužita-* .

IE *dus-uq*^{w}*to-*>IIr *dužukta-*>Skt *durukta-* Av *dužuχta-* .

IE *wl̥q*^{w}*os esti*>IIr *vr̥kaz asti*>Skt *vr̥ko'sti* (<*vr̥ko asti*), Av *vəhrkō asti* (Av *vəhrkō* is generalized), cp Gk *lúkos estí*.

IE *owis esti*>IIr *aviẓ asti*>Skt *avir asti* cp Gk *ôis estí*.

164. Preceding vowels were effected in Skt by the loss of IIr *z/ẓ* as follows :

(i) IIr *a*>Skt *e*, *o* (very rarely also *ā*) after the loss of *z/ẓ*. Normally *a*>*e* in the middle of a word and *a*>*o*, when it was the final vowel of a word, but there are exceptions. In some rare cases in any position *a*>*ā*.

IIr *a*>Skt *a* when *z* was replaced by *d* or *j*.

Examples of *a*>*e*

IIr *azdhi* (IE *ezdhi*)>Skt *edhi* (162).

IIr *mazdhā* (< IE *mn̥zdhē*) > Skt *medhā*, Av *mazdā* OP *mazdā*.

IIr *tr̥naẓdhi* (<IE *tr̥neĝdhi*<IE *tr̥neĝh-ti*)>Skt *tr̥ṇeḍhi*.

Examples of *a*>*o*

IIr *s(v)aẓdaśa* (<IE *sweĝz-dek̂m̥* < IE *swek̂s dek̂m̥*) > Skt *ṣoḍaśa* Av *χ*^{v}*ašdasa* (without sandhi of *š* > *ž*), Lat *sēdecim* (<**sēzdecim*).

IIr *vr̥kaz gaššati* (< IE *wl̥q*^{w}*oz-g*^{w}*m̥sk̂eti* < IE *wl̥q*^{w}*os g*^{w}*m̥sk̂eti*) > Skt *vr̥ko gacchati*, Av *vəhrkō jasaiti*, cp Gk *lúkos báskei*.

Examples of medial *a*>*o*

IIr *sažḍhas* (< IE *seĝdhos* < IE *seĝh-to-s*)>Skt *soḍhaḥ* cp Skt *ṣāḍha-* in *āṣāḍha-* with *ā*<IIr *a*.

Examples of *a*>*a* Skt *madguḥ* (158), *majjati* (159)

(ii) IIr *i*, *u* > *ī ū* when IIr *ẓ* was lost, and remained uneffected (i.e. as *i*, *u*) when *ẓ* was replaced by a *ḍ* (medially), or when *ẓ* became *r* (finally or medially before *bh*-).

IIr *nižḍas* (<IE *nizdos*)>Skt *nīḍa-* (163), dialectally also **niḍḍa-*, cp Pāli *neḍḍa-*.

IIr *miẓḍhas* (<IE *mizdhos*)>Skt *mīḍhaḥ* (163).

IIr *uẓḍhas*>Skt *ūḍhaḥ* (163).

IIr *diḍiẓḍhi* (<IE *didiĝdhi*)>Skt *didiḍḍhi*.

IIr *mimiẓḍhi* (<IE *mimiĝdhi*)>Skt *mimiḍḍhi*.

IIr *aviẓ gaššati*>Skt *avir gacchati* (163a).

IIr *žhaviẓbhiš*>Skt *havirbhiḥ* (161a).

(iii) Other vowels were not effected

IIr *āzdhvam*>Skt *ā(d)dhvam* (162).

IIr *dhṛẓḍhas* < IE *dhṛĝdhos* (< IE *dhṛĝh-to-s*) > Skt *dṛḍhaḥ* (85–ii).

IIr *mṛẓḍhi* (<IE *mṛĝ-dhi*)>Skt *mṛḍḍhi* (85–i).

165. Reconstruction of IE θ and δ

IE θ and δ are required in the following cases, where some IE languages strangely enough present dental stops corresponding to sibilants, in cognates presented by sister languages. It is probable that IE *s*>θ and *z*>δ in some sporadic cases dialectally, when the pronunciation shifted from groove to slit (Vide CGSGH 80). The dental stops, instead of sibilants are found in Gk, Celtic, Tokharian, and in some cases also in Hittite. Rest of the IE languages show sibilants. Since θ and δ occur only as second member of a conjunct it is also possible that this change occurred under certain conditions, which however cannot be

well-defined. It is not improbable that the dental stops developed as glides and the sibilants wsre consequently dropped. The dialectal treatment which needs progressive assimilation of a voiced stop and *s* into a voiced aspirate and *z* (74c–ii) needs reconstruction of IE δ. Otherwise IE θ alone is sufficient for reconstruction. In Gk this θ became *t* when preceded by voiceless non aspirate and *th* when preceded by voiceless aspirate irrespective of its origin. In Skt however this is always attested as *ṣ* as the preceding stop is invariably *k* in Skt irrespective of its origin. Some examples may be cited below.

IE *k̂θitis* (*k̂sitis*) > IIr *ṣ̌ṣ̌itiṣ̌* > Skt *kṣitiḥ*. Av *šitiš*, Gk *ktísis*, cp OHG *sedal* Lith *szeimy'na*.

IE *tek̂θon-*(*tek̂son-*) > IIr *taṣ̌ṣ̌ann-* > Skt *takšan-*, Av *tašan-*, Gk *téktōn*, cp Lat *texō*, Ht *taks-*, OHG *dehsala*.

IE *r̥k̂θos* (*r̥k̂sos*) > IIr *r̥ṣ̌ṣ̌as* > Skt *r̥kṣaḥ*, Av *arəšō*, Gk *árktos*, Lat *ursus* (<**urcsus*), Gall *artos*, Mid Irish *art*.

IE *qθen* (*qsen*) > IIr *kṣ̌an* > Skt *kṣaṇoti*, OP *aχšata*, Gk *kteínō*.

IE *qθei* (*qsei*) > IIr *kṣai* > Skt *kṣayati*, Av *χšayeiti*, Gk *ktáomai*.

IE *rek̂hθ* (*rek̂s*) > IIr *raṣṣ* > Skt *raksaḥ* Av *rašō*, Gk *erékhthō*.

IE *qʷhθitis* (*qʷsitis*) > IIr *kṣ̌itis* > Skt *kṣitiḥ*, Av *χšyō*, Gk *phthísis*.

IE *tēĝδdhi* (< IE *tek̂θ+dhi*) (*tēĝzdhi*) < IIr *tā(ẓ̌)ẓ̌dhi* > Skt *tāḍhi*.

IE *ĝhδom* (*k̂θom*, *k̂som*) > IIr *kṣ̌am* > Skt *kṣam-*, Gk *khthṓn*, Ht *degan* (<**dgan* < **gdam*), Tokh (A) *tkaṃ*, (B) *keṃ* (*tk* < *kt*), cp Lith *žemė́*.

IE *gʷhδer* (*gʷhzer*, *qʷser*) > IIr *ghẓ̌ar*, *kṣ̌ar* > Skt *kṣar-*, Av *γžārayeiti*, Arm *Jur*, Gk *phtheírō*, Lat *serum*.

166. Origin of the Cerebral Sounds in Skt

One of the chief features of Skt phonology is that Skt shows a set of cerebral sounds (variously termed as cacuminal, domal, lingual, retroflex etc.), uttered in the soft palate by the tip of the tongue, turned backwards. These are : (i) stops ṭ, *ṭh*, *ḍ*, *ḍh* (ii) nasal *ṇ* (iii) spirant *ṣ*. Besides *r* (along with its correspon-ding vowel *r̥*) is also termed to be cerebral by Pāṇini etc, whereas the *Prātiśākhyas* sometimes classify it otherwise *r* (along with *r̥*) should definitely be termed as a cerebralizing sound, as this has a very important role in cerebralization.

Although no other IE language shows any cerebral sound the cerebralization in Skt may be considered to be natural development of a particular sound change which can be traced upto the Satəm stage of IE. IE *s* became *ṣ̌* in Satəm stage after *r* (153). In IIr the change of IE *s* to *ṣ̌* could be after *ĭ*, *ŭ*, *r̥̆*, *r*, *š*, *k* (153), IE *z* also became *ẓ̌* in IIr preceded by *ĭ*, *ŭ*, *r̥̆*, *r*, *ž*, *g*. Besides IE *k̂* became *ṣ̌* in IIr when followed by *t*, *th* (78) and IE *ĝ* became *ẓ̌* in IIr when followed by *d*, *dh* (85). Thus IIr developed two special palatal sounds (or cerebral sounds) which are distinct from the other two similar palatal sounds *š* and *ž*.

IIr *ṣ̌* became *ṣ* in Skt and it cerebralizhd the following *t*, *th*, *n* into ṭ, *ṭh*, and *ṇ* (153d). IIr *ẓ̌* perhaps became *ẓ* in proto-Skt and cerebralized the following *d*, *dh* into *ḍ*, *ḍh* and was lost itself after cerebralizing (157). Further IE *n*>*ṇ* in Skt when preceded by *r̥*, *r*, *ṣ* (144). Besides these there were some cases of Prākritic cerebralization in Skt which are much more predominant in Prākrit, but are sporadically attested even in the earliest document of OIA. This is cerebralization of *t*, *th*, *d*, *dh*, into ṭ, *ṭh*, *ḍ*, *ḍh* in the vicinity of *r* or *r̥*. e.g. *vikaṭa-*<*vikr̥ta-* *vaṭa-*<*vr̥ta-* (105b). Besides there are also cases where a *r* is lost after cerebralization of *t*, *th*, *d*, *dh*, *n*, & *s* into ṭ, *ṭh*, *ḍ*, *ḍh*, *ṇ* and *ṣ* respectively (134).

Thus cerebralization had its origin in a sound change in Satəm in changing *s* to *ṣ̌* after *r̥̆* & *r* and gradually in IIr stage

the change of *s* to *š* was extended further. In IIr *s* > *ṣ̌* after *ĭ*, *ŭ*, *r̥̆* (<IE *r̥̆*/*l̥̆*), *r* (<IE *r*/*l*), *k* & *ṣ* (IE *k̂*). In Skt, IIr *š* > *ṣ* and this cerebralized a following *t*, *th*, *n* to *ṭ*, *ṭh*, *ṇ*. Similarly IIr *ẓ̌* was lost in Skt cerebralizing Skt *d*, *dh* to *ḍ*, *ḍh*. These changes and the Prākritic cerebralization (where a *r*/*r̥* cerebralized a following dental and was often lost), explain most of the forms with cerebral sounds in Skt. Still Skt shows many forms (most of them being of later stages of OIA) which are not so simple in explanation. Some of them are assigned to the borrowed categories coming from Dravidian or Munda. Yet there are quite a many which are of obscure origin.

But it must be emphatically held that cerebral sounds are of historical origin in Skt and not borrowed from any other language, as is often misunderstood by some scholars.

PART FOUR
Phonology—Miscellaneous

CHAPTER XIV

Sanskrit Vowels

167. In the previous chapters the development of IE sounds in Skt has been elaborately presented. In this chapter and the next chapter (XV) history of Skt sounds will be shown in the reverse order. Skt sounds will be traced back to their various sources in IIr and IE. This will be presented very concisely, with cross references to earlier sections (for details of cognates etc), obviously to avoid unnecessary repetetions.

168. Skt *a* < IIr *a*

< IE *a* e.g. Skt *apa* < IE *apo* (25)

< IE *e* e.g. Skt *asti* < IE *esti* (26)

< IE *o* e.g. Skt *aviḥ* < IE *owis* (27)

< IE *m̥* e.g. Skt *gatiḥ* < IE *g^wm̥tis* (37)

< IE *n̥* e.g. Skt *hataḥ* < IE *g^whn̥tos* (38)

Also Skt *a* < Pkt *a* e.g. *vaṭa* (36a) = earlier Skt *r̥*.

169. Skt *ā* < IIr *ā*

< IE *ā* e.g. Skt *mātā* < IE *mātēr* (28)

< IE *ē* e.g. Skt *mā* < IE *mē* (29)

< IE *ō* e.g. Skt *āśuḥ* < IE *ōḱus* (30)

< IE *m̥̄* e.g. Skt *dāntaḥ* < IE *dm̥̄tos* (43)

< IE *n̥̄* e.g. Skt *jātaḥ* < IE *ĝn̥̄tos* (44)

Also Skt *ā* < IIr *az* e.g. Skt *ṣāḍha-* (164-i)

170. Skt *i* < IIr *i*

< IE *i* e.g. Skt *asti* < IE *esti* (33)

< IE *ə* e.g. Skt *sthitaḥ* < IE *sthətos* (31)

Also Skt *ir* < IIr *r̥r* < IE *r̥r*/*l̥l*, e.g. Skt *giriḥ* < IE *g^wr̥ris* (45(3)).

And also Skt *i* < Pkt *i* = Skt *r̥*; e.g. *śithila* < **śr̥thila* (36a).

171. Skt ī<IIr ī<IE ī e.g. Skt *jīvaḥ*<IE *g*^{w}*īwos* (**39**)

Also Skt ī < IIr *iẓ̌*; e.g. *nīḍa-* < IIr *niẓ̌da-* < IE *nizdo-* (**164-ii**).

And also Skt *īr*<IIr r̥̄<IE r̥̄/l̥̄; e.g. Skt *īrmaḥ*<IE *r̥̄mos* (**41**), Skt *dīrghaḥ*<IE *dl̥̄ghos* (**42**).

172. Skt *u*<IIr *u*<IE *u* e.g. Skt *upa*<IE *upo* (**34**)

Also Skt *ur*<IIr *r̥r*<IE *r̥r/l̥l*; e.g. Skt *guruḥ*<IE *g*^{w}*r̥rus* (**45**(3)), Skt *puruḥ*<IE *pl̥lus* (**45**(3)).

And also Skt *u* < Pkt *u* = Skt *r̥*; e.g. Skt *uḍupati* = Skt *r̥tupati* (**36a**).

173. Skt *ū*<IIr *ū*<IE *ū* e.g. Skt *bhrūḥ*<IE *bhrūs* (**40**)

Also Skt *ū*<IIr *uẓ̌* e.g. Skt *ūḍhaḥ*<IIr *uẓ̌dhas* (**164-ii**)

And also Skt *ūr*<IIr r̥̄<IE r̥̄/l̥̄ e.g. Skt *ūrdhvaḥ*<IE *r̥dhwos* (**42**); *pūrṇaḥ*<IE *pl̥̄nos* (**42**).

174. Skt *r̥*<IIr *r̥*<IE *r̥/l̥* e.g. Skt *dhr̥ṣ-* <IE *dhr̥s-* (**35**), Skt *vr̥kaḥ*<IE *wl̥q*^{w}*os* (**36**)

Also Skt *r̥* rarely sometimes by Prakritism<Skt *ri/ru*; e.g. *tr̥tīyaḥ*<**tritīyaḥ*; *śr̥ṇomi*<**śruṇomi*.

175. Skt r̥̄ is an analogical creation (as IIr r̥̄>Skt *īr*, *ūr*); r̥̄ developed in Skt when r̥ declension was patternised after vowel declensions; e.g. Skt *pitr̥̄n* (after *agnīn* etc), *pitr̥̄ṇām* (after *agnīnām* etc), *mātr̥̄ḥ* (after *matīḥ* etc), *dātr̥̄ṇi* (after *vārīṇi* etc).

176. Skt *l̥*<IIr *r̥*<IE *r̥/l̥*, but attested only in √*kl̥p*.

176a. Skt *l̥̄* is enumerated only in some Prātiśākhyas and Grammars, but not attested in language and not recognized by Panini.

177. Skt *e*<IIr *ai*

<IE *ai* e.g. Skt *edhaḥ*<IE *aidhos* (**48**)

<IE *ei* e.g. Skt *eti*<IE *eiti* (**49**)

<IE *oi* e.g. Skt *me*<IE *moi* (**50**)

Skt *e* also <IIr *az/aẓ̌*; e.g. Skt *edhi*<IIr *azdhi*; Skt *tr̥ṇeḍhi* <IIr *tr̥naždhi* (**146-i**).

178. Skt *ai* < IIr *āi*

< IE *āi* e.g. Skt *aidham* < IE *āidh-* (54)
< IE *ēi* e.g. Skt *aita* < IE *ēite* (55)
< IE *ōi* e.g. Skt *vr̥kaiḥ* < IE *wl̥q*^{w}*ōis* (56)

179. Skt *o* < IIr *au*

< IE *au* e.g. Skt *ojaḥ* < IE *auges* (51)
< IE *eu* e.g. Skt *rocaḥ* < IE *leuq*^{w}*es* (52)
< IE *ou* e.g. Skt *sūnoḥ* < IE *sūnous* (53)

Skt *o* also < IIr *az/aẓ̌* e.g. Skt *ṣoḍaśa* < IIr *s(v)aẓ̌daša* (164-i); Skt *yo vā* < IIr *yaz vā* (242)

180. Skt *au* < IIr *āu*

< IE *āu* e.g. Skt *nauḥ* < IE *nāus* (57)
< IE *ēu* e.g. Skt *dyauḥ* < IE *dyēus* (58)
< IE *ōu* e.g. Skt *gauḥ* < IE *g*^{w}*ōus* (59)

CHAPTER XV

Sanskrit Consonants

181. Skt *k* < IIr *k*

< IE *q* e.g. Skt *kraviḥ* < IE *qrewəs* (**87**)

< IE q^w e.g. Skt *kaḥ* < IE q^w*os* (**96**)

Skt *k* also < IE *k̂* before *s;* e.g. Skt *dikṣu* < IE *dik̂su* (**79**).

Skt *k* also < IE *qh*/q^w*h* by dissimilation of aspirates; e.g. Skt *kumbha* < IE *qhumbho* (**90b**).

182. Skt *kh* < IIr *kh*

< IE *qh* e.g. Skt *śaṅkhaḥ* < IE *k̂oŋqhos* (**90**)

< IE q^w*h* e.g. Skt *skhalati* < IE *sq*^{w}*hol-* (**99**)

183. Skt *g* < IIr *g*

< IE *g* e.g. Skt *yugam* < IE *yugom* (**91**)

< IE g^w e.g. Skt *gauḥ* < IE g^w*ōus* (**100**)

Skt *g* also < IE *gh*/g^w*h* by dissimilation of aspirates; e.g. Skt *gr̥ha-* < IE *ghr̥dho-* (**95b**).

And Skt *g* also (sometimes) < IE *ĝ* by analogy; e.g. Skt *sarga-* < IE *serĝo-* (**82a**); Skt *digbhiḥ* < IE *diĝbhis* (**83a**).

184. Skt *gh* < IIr *gh*

< IE *gh* e.g. Skt *dīrghaḥ* < IE *dl̥̄ghos* (**95**)

< IE g^w*h* e.g. Skt *gharmaḥ* < IE g^w*hormos* (**103**)

185. Skt *ṅ* < IIr *ŋ*

< IE *ŋ* e.g. Skt *śaṅkhaḥ* < IE *k̂oŋghos* (**148**)

Also Skt *ṅ* analogically sometimes for Skt *k* < IE *k̂s* e.g. Skt *sadr̥ṅ* (**79c**).

186. Skt *c* < IIr *c* (< IE *q*/q^w before palatal vowels)

< IE *q* e.g. Skt *rocati* < IE *leuqeti* (**87a**)

< IE q^w e.g. Skt *pañca* < IE *peŋq*^{w}*e* (**96a**)

Skt *c* < IIr *ch* (< IE *qh*/*q*^{w}*h* before palatal vowels) by dissimilation of aspirates; e.g. Skt *cakhāda* < IIr *chakhāda* (**90b**).

187. Skt *ch* < IIr *ch* (< IE *qh*/*q*^{w}*h* before palatal vowels) e.g. Skt *chalayati* < IE *sq*^{w}*hel* (**99a**)

Skt *ch* < IIr *šh* < IE *k̂h* (**80**)

< IIr *šš* < IE *sk̂*; e.g. Skt *gacchati* < IIr *gaššati* < IE *g*^{w}*m̥sk̂eti* cp Av *jasaiti*, Gk *báskei*

< IIr *ššh* < IE *sk̂h* e.g. Skt *chid* < IIr *ššhid* < IE *sk̂hid* (**80**)

188. Skt *j* < IIr *ž* < IE *ĝ* e.g. Skt *jānu* < IIr *žānu* < IE *ĝēnu* (**82**)

< IIr *j* < IE *g*/*g*^{w} before palatal vowels

< IE *g* e.g. Skt *ojas* < IE *auges* (**91**)

< IE *g*^{w} e.g. Skt *tyajati* < IE *tyeg*^{w}*eti* (**100a**)

< IIr *žh* < IE *ĝh* by dissimilation of aspirates e.g. Skt *jahāmi* < IIr *žhažhāmi* < IE *ĝhiĝhāmi* (**86a**)

IIr *jh* < IE *gh*/*g*^{w}*h* before palatal vowels by dissimilation of aspirates

< IE *gh* e.g. Skt *jaghāsa* < IE *gheghōse* (**95b**)

< IE *g*^{w}*h* e.g. Skt *jaghāna* < IE *g*^{w}*heg*^{w}*hōne* (**103b**)

189. Skt *jh* < IIr *žh* < IE *ĝh* (very rarely) e.g. Skt *ujjhita* < IIr *ud-žhi-ta-* < IE *ud-ĝhə-to-* beside Skt *jahāti* (cp Av *zazāti*) < IIr *žhažhāti* (**86a**) with *h* < earlier *jh*.

Skt *jh* < IIr *jh* < IE *gh*/*g*^{w}*h* followed by palatal vowels (but no sure example can be cited), as Skt *jh* has almost always become *h* in Skt.

Skt *jh*, which is attested in the language, is mostly of onomatopoeic origin; e.g. Skt *jhaṭiti*, *jhaṅkāra* etc.

Skt *jh* also sometimes < Pkt *jh*; e.g. Skt *nir-jhara-* < *-kṣara-*.

190. Skt *ñ* is always found before Skt *c*, *ch*, *j*, *jh* irrespective of its origin from IE *n̂*, *ŋ* etc.

< IE *n̂* e.g. Skt *r̥ñjati* < IE *r̥n̂ĝeti* (**147**), also cp Skt *vāñchati* < IE *wn̥sk̂iti* (**44**)

< IE *ŋ* e.g. Skt *pañca* < IE *peŋq*^{w}*e* (**148**), Skt *añj* < IE *aŋg*^{w} (**148**)

<Skt *n* after *c* & *j*; e.g. *yācñā* (< **yāc-nā*), *yajña-* (< **yaj-na-* < IE *yaĝ-no-*) (**146**)

191. Skt ṭ < IIr *t* < IE *t* after *ṣ*, e.g. Skt *iṣṭaḥ* < IIr *iṣ̌tas* < IE *iḱtos*, and Skt *iṣṭaḥ* < IIr *iṣ̌tas* < IE *istos* (**105a**)

Also Skt ṭ < Skt *t* by Prakritism, e.g. Skt *vaṭa* < Skt *vṛta-* (**105b**)

Also Skt ṭ < Skt *t* by spontaneous cerebralization e.g. Skt *aṭati* < Skt *atati* (**105c**)

191a. For details of origin of cerebral sounds in Sanskrit (**166**).

192. Skt *ṭh* < IIr *th* < IE *th* after Skt *ṣ*, e.g. *tiṣṭhāmi* (**113**)

< Skt *th* by Prakritism, e.g. Skt *jaṭhara* < IIr *jarthara* < IE *qelthero* cp Goth *kilþei*.

193. Skt *ḍ* < IIr *d* < IE *d* after IIr *ẓ̌*, e.g. Skt *mṛ īka-* < IIr *mṛẓ̌dīka* < IE *mṛ̥ĝdīka-*; Skt *nīḍa-* < IIr *niẓ̌da-* < IE *nizdo-* (**115**)

Also Skt *ḍ* < Skt *d* by Prakritism (**166**), e.g. Skt *daṇḍa* < IIr *dandra* (**134(b)**)

193a. RV *ḷ* < Skt *ḍ* intervocally; e.g. RV *īḷe* < *īḍe* beside *ī ḷya-*.

194. Skt *ḍh* < IIr *dh* < IE *dh* after IIr *ẓ̌*; e.g. Skt *ūḍhaḥ* < IIr *uẓ̌dhas* < IE *uĝdhos*; Skt *mīḍhaḥ* < IIr *miẓ̌dhas* < IE *mizdhos* (**118c**)

Also Skt *ḍh* < Skt *dh* by Prakritism (**166**)

194a. RV *ḷh* < Skt *ḍh* intervocally; e.g. RV *mīḷhaḥ* < *mīḍhaḥ*.

195. Skt *ṇ* < IIr *n* < IE *n* after Skt *ṛ*, *r*, *ṣ*; e.g. *tṛṇa*, *arṇa*, *kṛṣṇa* (**144**)

Skt *ṇ* < Skt *n* before ṭ, *ṭh* *ḍ*, *ḍh*; e.g. *kaṇṭaka-*, *kaṇṭha-*, *muṇḍa-*, *ṣaṇḍha-* (**144h**)

196. Skt *t* < IIr *t* < IE *t* e.g. Skt *tam* < IE *tom* (**105**)

Also Skt *t* < IIr *th* < IE *th* by dissimilation of aspirates, e.g. Skt *tiṣṭhāmi* < IE *sthisthāmi* (**112**)

197. Skt *th* < IIr *th* < IE *th*, e.g. Skt *vettha* < IE *woit^stha* (**111**)

198. Skt *d* <IIr *d* <IE *d*; e.g. Skt *daśa* <IE *deḱm̥* (114)

Also Skt *d* <IIr *dh* < IE *dh* by dissimilation of aspirates, e.g. Skt *dadhāmi* <IE *dhidhēmi* (118b)

199. Skt *dh* <IIr *dh* <IE *dh*, e.g Skt *dhūmaḥ* <IE *dhūmos* (118)

200. Skt *n* <IIr *n* <IE *n*, e.g. Skt *nāma* <IE *nōmn̥* (142)

201. Skt *p* <IIr *p* <IE *p*, e.g. Skt *patati* <IE *peteti* (105)

Also Skt *p* <IIr *ph* <IE *ph* by dissimilation of aspirates e.g. Skt *paphāla* <IE *pephōle* (123)

202. Skt *ph* <IIr *ph* <IE *ph*, e.g. Skt *phalam* <IE *phelom* (122)

203. Skt *b* <IIr *b* <IE *b* e.g. Skt *pibāmi* <IE *pibō* (124)

Also Skt *b* <IIr *bh* <IE *bh* by dissimilation of aspirates e.g. Skt *babhāra* <IE *bhebhōre* (129)

204. Skt *bh* <IIr *bh* <IE *bh* e.g. Skt *bhrātā* <IE *bhrātēr* (127)

205. Skt *m* <IIr *m* <IE *m* e.g. Skt *mātā* <IE *mātēr* (139)

206. Skt *y* <IIr *y* <IE *y* e.g. Skt *yaḥ* <IE *yos* (131)

207. Skt *r* <IIr *r* (<IE *r/l*)

<IE *r*, e.g. Skt *pra* <IE *pro* (133)

<IE *l*, e.g. Skt *rocaḥ* <IE *leuqes* (137)

208. Skt *l* <IIr *r* (<IE *r/l*)

<IE *l*, e.g. Skt *lokaḥ* <IE *leuqos* (137)

<IE *r*, e.g. Skt *lohitaḥ* <IE *reudh* (133)

209. Skt *v* <IIr *v* <IE *w* e.g. Skt *vahati* <IE *weĝh* (132)

210. Skt *ś* <IIr *š* <IE *ḱ* e.g. Skt *śatam* <IE *ḱm̥to n* (77)

Also Skt *ś* <IIr *s* <IE *s* by assimilation e.g. *śuṣka-* (54a)

And also Skt *ś* <IIr *š*(<IE *s*) before *c*, *ch* by sandhi, e.g. Skt *asaścatam* (154)

211. Skt *ṣ* <IIr <IE *s* after *i*, *u*, *r̥*, *k*, *ṣ*, e.g. Skt *triṣu*, *śuṣka*, *tr̥ṣṇā*, *varṣa-*, *ukṣā* etc (153)

Also Skt *ṣ* < IIr *ṣ̌* < IE *ḱ* before *t*, *th* e.g. Skt *iṣṭaḥ* < IE *iḱtos* (78)

212. Skt *s* <IIr *s* <IE *s*; e.g. Skt *sa* <IE *so* (152)

213. Skt *h* <IIr *žh* < IE *ĝh*; e.g. Skt *vahati* < IIr *važhati* <IE *weĝheti* (86)

Skt *h*<IIr *jh*<IE *gh*/$g^{w}h$ followed by palatal vowels; e.g. Skt *jaṃhas* < IE *gheŋghes* (**95a**) Skt *hanti* < IIr *jhanti* < IE g^{w}*henti* (**103a**)

Also Skt *h*<Skt *dh* (sometimes) Skt *hitaḥ* (**118a**)

And also Skt *h*<Skt *bh* (rarely) Skt *gr̥h* (**128**).

214. Skt *ḥ*<IIr *s*/*ṣ̌*<IE *s* finally; e.g. Skt *vr̥kaḥ*<IIr *vr̥kas*< IE *wl̥q*^{w}*os* (**152a**), Skt *aviḥ*<IIr *aviṣ̌*<IE *owis* (**153**)

Also Skt *ḥ* < IIr *r* < IE *r*/*l* finally; e.g. Skt *mātaḥ* < IIr *mātar*<IE *māter* (**135**)

215. Skt *ṃ*<IIr *n*<IE *n* before *s*, e.g. Skt *haṃsaḥ*<IIr *žhansas* <IE *ĝhansos* (**143**)

Also Skt *ṃ*<IE *ñ*/*ŋ* before *ś* & *h* e.g. Skt *aṃśaḥ*<IE *oñk̂os* (**147**), Skt *aṃhas*<IE *añĝhes* (**147**).

Skt also developed *ṃ*<*m* in certain sandhi.

216. RV *ḷ*<Skt *ḍ* intervocally (**193a**)

217. RV *ḷh*<Skt *ḍh* intervocally (**194a**)

CHAPTER XVI

Sandhi–Vowel Sandhi

218. Sandhi, the Skt term, etymologically means unification or combination and indicates sound combination or more precisely combinatory sound changes. Sandhi may be distinguished as Internal and External sandhi, on the one hand, and as vowel sandhi and consonant sandhi, on the other hand.

219. Internal and External Sandhi

Internal Sandhi is, to a great extent, inherited from IE through IIr and therefore more historical and more rigid than external sandhi. This applies to sandhi-combinations within a word. Thus it may also be termed as word-sandhi. In Skt the final sounds of roots, verbal stems, nominal and pronominal stems were combined with the initial sounds of all declensional and conjugational terminations (excluding *bhyām,-bhiḥ,-bhyaḥ or -su)* all the primary suffixes and the secondary suffixes beginning with a vowel or *y*, in internal sandhi.

External Sandhi is comparatively more recent and therefore less historical and less rigid, than the internal sandhi. This also has started from the IE period, without much difference in treatment of sounds than the internal sandhi. But there is enough positive evidence of innovations in external sandhi in the IIr stage. This applies to sound combinations outside a word and therefore may be termed as sentence-sandhi. The final sounds of one (inflected) word was combined with the initial sounds of another word. In Skt the rules of external sandhi also apply to some cases, which theoretically should come under internal sandhi. That is combination of nominal and pronominal stems with the terminations *-bhyām*, *-bhiḥ*, *-bhyaḥ* and *-su* and combination of stems to the secondary affixes beginning with a consonant except *-y*.

Sandhi in Sanskrit Compounds partly shows internal sandhi and partly external sandhi. Internal sandhi is more common in the earlier phase of the language and external sandhi is more frequent in later phase of Skt in compounds e.g. vd *dūḍábha-* (< IIr *duẓ-dabha-*) cp cl *durdabha-* vd *dūṇāsa-* (< IIr *duẓ-nāsa*) cp cl *durnāsa-*. Classical also shows a few cases of retention of internal sandhi; e.g. *sam-rāṭ*, beside vd *saṃrājantam*, cl *saṃrata-*, with *m* > *ṃ* as in external sandhi. *aḥ* (< IIr *az*) > *o* always in Skt before voiced sounds in compounds as in external sandhi. Cerebralization of *n* > *ṇ* & *s* > *ṣ* is sometimes found & sometimes not in compounds.

Sometimes there is lack of sandhi in vd, paralleled in other IE languages, e.g. vd *yukta-asvaḥ* besides *yuktāśvaḥ* (vide 222). Similarly vd *áccha-ukti*, *devá-iddha-* etc.

220. Vowel Sandhi & Consonant Sandhi

Sandhi may as well be divided as vowel sandhi and consonant sandhi.

Vowel sandhi indicates combination of vowels with vowels, where normally combination of a primary vowel with a primary vowel and of a secondary vowel with a secondary vowel of the same quality shows contraction; and sandhi of a secondary vowel with a secondary vowel of different quality shows consonantalization of the preceding secondary vowel. Combination of a primary vowel with the secondary vowels *i*, *u* results in diphthongization of the combination, and combination of a primary vowel with any other secondary vowel results in consonontalization of the secondary vowel.

Consonant sandhi indicates combination of a consonant with a following vowel or consonant, which results in assimilation of the consonant or consonants. In consonant sandhi the most notable IIr innovation is that in external sandhi a vowel has on identical role with a voiced consonant.

221. Sandhi in IE, IIr & Skt

Skt sandhi is inherited from IE to a great extent. Some innovations were introduced in the IIr stage (229b etc). Some

more innovations have started in the OIA stage (231, 232, 233, 236 etc). Cl Skt has further innovations (236). These are presented in greater detail in the forth-coming sections. To be concise, internal sandhi, with a few exception may be fully ascribed to IE, sandhi in compounds was optional in IE, but must have started to operate; and external sandhi has quite a number of innovations, some belonging to the IIr stage and the rest to OIA.

Due to phonetic changes some of IE sandhis were obsolete in IIr (vide 229) and were replaced by other sandhis which fitted in, to the subsequent phonetic set up (229 b).

Vide also 242 where it has been shown that some of the assimilation in consonant sandhi belong to the IE period, whereas others are IIr and OIA innovations.

222. Skt $\breve{\bar{a}}+\breve{\bar{a}}>\bar{a}$

That is Skt $a+a/a+\bar{a}/\bar{a}+a/\bar{a}+\bar{a}>\bar{a}$ in Skt. In IE also contraction of two short or long primary vowels of the same quality or of different qualities resulted in a long primary vowel. If the primary vowels were of the same quality, the resultant was a long primary vowel of the same quality, e.g. $\breve{\bar{a}}+\breve{\bar{a}}>$ IE $\bar{a}$, $\breve{\bar{e}}+\breve{\bar{e}}>\bar{e}$, $\breve{\bar{o}}+\breve{\bar{o}}>\bar{o}$. If the primary vowels were of different qualities, the resultant vowel was normally a long vowel corresponding to the first vowel, i.e. there was regressive assimilation before contraction. Thus $\breve{\bar{a}}+\breve{\bar{e}}/\breve{\bar{o}}>\bar{a}$, $\breve{\bar{e}}+\breve{\bar{a}}/\breve{\bar{o}}>\bar{e}$, $\breve{\bar{o}}+\breve{\bar{a}}/\breve{\bar{e}}>\bar{o}$. (Although theoretically progressive assimilation before contraction in some dialects cannot be ruled out). Comparative evidence also shows lack of contraction in some cases even in IE specially in external sandhi (including sandhi in compounds). In IIr as well as in Skt the qualitative distinction of primary vowels is lost, as a result of which the contraction of primary vowels has the simplest representation in $\breve{\bar{a}}+\breve{\bar{a}}>\bar{a}$. Some illustrations may now be taken.

In internal sandhi

IE *wl̥qʷo—es* > IE *wl̥qʷōs* > IIr *vr̥kās*(= *vr̥ka-as*) > Skt *vr̥kāḥ* (= *vr̥ka-aḥ*), Av *vəhrkå*, Goth *wulfōs* etc.

IE *e-esm̥(m)* > IE *ēsm̥(m)* > IIr *āsam* (= IIr *a asam*) > Skt *āsam*(= *a-asam*), OP *āham*, Gk *êa*.

IE *eḱwā es* > IE *eḱwās* > IIr *ašvās* (= *ašvā-as*) > Skt *aśvāḥ* (*aśva-aḥ*), Av *asp.*, Goth *gibōs*.

In Compounds

IE *yuqto-eḱwos* > *yuqtōḱwos* > IIr *yuktāšvas* (also uncontracted *yukta-ašvas*) > Skt *yuktāśvaḥ* (also Vd uncontracted *yukta-aśvaḥ*), Av *yuχtāspō* (also uncontracted *yuχta-aspō*) cp OCS (uncontracted) *dobro-okŭ* 'beautiful eyed'.

In External Sandhi

IE *ne-esti* > *nēsti* > IIr *nāsti* > Skt *nāsti* (*na-asti*), cp Lith *něsti* and OCS *nestŭ*, cp Gk *tâlla* < *tà álla*.

IE *upo-aĝeti* > *upōĝeti* > IIr *upāžati* > Skt *upājati* (= *upa-ajati*), cp Av *upāzaiti* (= *upa-azaiti*).

IE *awo-eg*[w]*henm̥(m)* > *awōg*[w]*henm̥(m)* > IIr *avājhanam* > Skt *avāhanam* (= *ava* + *a*-), OP *avājanam*.

222a. Sometimes in external sandhi Vedic *ā* + *a* remains uncontracted, e.g., *manīṣā agniḥ*. Sometimes a written contraction is to be read as uncontracted e.g. *cāsāt* = *ca āsāt*. Sometimes also *ā* (< *ā* + *a*) is to be read as *a—ā* e.g. *ma āpeḥ* < *māpeḥ*. cp also internal sandhi form *parastāt* read as *parastaāt* cp Av *āat*, = Vd *āt*.

223. Skt *ĭ* + *ĭ* > *ī* (= IIr *ĭ* + *ĭ* > *ī* and IE *ĭ* + *ĭ*/*ə* > *ī*)

Internal

IE *i-iĝai* > IE *īĝai* > IIr *īžai* (= *i* + *ižai*) > Skt *īje* cp gAv *īžā* 'strive (Impv)' (< **i* + *ižā* < IIr *i ižh-ža* < IE *i iĝh-zo*).

Similarly Skt (Vd) Loc sg *vedī* (< *vedi* + *i*), *gaurī* (< *gaurī* + *i*), *sarasī* (*sarasī* + *i*) etc. cp Gk Loc sg *pólī* (< *poli* + *i*).

Compounds

Skt *adhīna-* (< *adhi* + *ina-*), *adhīśa-* (< *adhi* + *īśa-*), *mahīśa-* (< *mahī* + *īśa-*) etc.

External

Skt *adhīha* (<*adhi*+*iha*), *divīva* (<*divi*+*iva*), *itīśvareṇa* (*iti*+*īśvareṇa*), *devīva* (*devī*+*iva*).

224. Skt *ŭ*+*ŭ*>*ū* in Skt (So in IIr & IE)

Internal

IE *u-uq*^{w}*r̥r*>*ūq*^{w}*r̥r*>IIr *ūkr̥r* (or *ūcr̥r*)>Skt *ūcuḥ*

Compounds

IE *su*+*uq*^{w}*tom*>*sūq*^{w}*tom*>IIr *sūktam*>Skt *sūktam* (Vd also uncontracted *su-uktam*) Av *hūχtəm*.

Similarly Skt *anūditam* (*anu*+*u*-)

External

Skt *tāsūttamā*<*tāsu*+*uttamā*<IE *tāsu*+*uttm̥mā*.

224a. Lack of sandhi in Vd (RV) *viḷú utá*, *su ūtayaḥ* etc.

225. Skt *r̥*+*r̥* > *r̥̄*. But no example in vedic or classical. Grammarian's examples are *pitr̥̄ṇa* < *pitr̥-r̥ṇa-*, *mātr̥̄ṇa-* < *mātr̥-r̥ṇa-* etc.

225a. IE might have had *r̥̆*+*r̥̆*>*r̥̄*, *l̥̆*+*l̥̆*>*l̥̄*, *m̥̆*+*m̥̆*>*m̥̄*, *n̥̆*+*n̥̆*>*n̥̄*. But no illustration is possible.

226. *ĭ* + a dissimilar vowel > *y* + the vowel (So also in IIr & IE).

Internal

IE *owi*+*os*>IE *owyos*>IIr *avyas*>Skt *avyaḥ* (Vd), cp Gk *óios*, cp Av *kaoyąm*<IIr *kavyām*<IIr *kavi*+*ām*.

External

IE *proti*+*ebherom*>IE *proty-ebherom*>IIr *pratyabharam*> Skt *pratyabharam* cp Gk *pros-épheron*.

227. *ŭ* + a dissimilar vowel > *v* (IE *w*) + the vowel (so in IIr & IE)

Internal

IE *peḱu*+*ōm*>IE *peḱwōm* > IIr *paśvām*>Skt (Vd) *paśvām* Av *pasvąm*, cp Gk *goúnōn* (<IE *ĝonu*+*ōm*).

External

IE *anu+idhi*>IE *anwidhi*>IIr *anv-idhi*>Skt *anvihi.*

228. *r̥*+ a dissimilar vowel>*r*+ the vowel (so in IIr & IE).

IE *pətr̥+ai*>IE *pətr ai* > IIr *pitrai* > Skt *pitre,* Av *piθrē,* cp Gk *patrôn*<IE *pətr̥+ōm.*

229. In IE *l̥̆, m̥̆, n̥̆*+ a dissimilar vowel >*l, m, n*+ the vowel. Since IE *l̥̆*>IIr *r̥̆* and *m̥̆, n̥̆*>IIr *ă,* this sandhi must have ceased to operate in the IIr stage.

Examples may be justified from IE.

IE *pipl-n̥ti* (< IE *pipl̥ + n̥ti*) > Skt *pipr-ati* (beside Skt *pipr̥tām*<IE *pipl̥ tām*).

IE *egʷegʷmet* (<IE *egʷe-gʷm̥-et*)> Skt *ajagmat* (beside Skt *gataḥ*<IE *gʷm̥tos*).

IE *egʷhegʷhnet*(<IE *egʷhə-gʷhn̥-et*) > Skt *ajaghnat* (beside Skt *hataḥ*<IE *gʷhn̥tos*).

229a. According to traditional grammarians in Skt also *l̥*+ a dissimilar vowel became *l*+ the vowel. But no genuine example is attested. The artificial example cited in grammars is : *l̥+ākr̥tiḥ* *l-ākr̥tiḥ.*

229b. Since IE *m̥̆/n̥̆* > IIr *ă,* they continued to have identical sandhi-treatment with *ă* (< IE *ă/ĕ/ŏ*) in IIr; e.g. Skt *dvijāḥ* < *dvija-aḥ*<IIr *dvižās*<*dviža+as* but<IE *dwiĝn̥+es*).

230. IE *ĭ, ŭ, r̥̆, l̥̆, m̥̆, n̥̆*+ a vowel>IE *iy, uw, r̥r, l̥l, m̥m, n̥n*+ the vowel, when preceded by a heavy syllable (32). In Skt this sandhi is retained in some words in a generalized form, often without prejudice to the preceding syllable. In case of *l̥̆, m̥̆, n̥̆*+ a vowel the sandhi was no more productive in Skt obviously due to phonetic changes (229).

IE *dhī+ōm*>IE *dhiyōm*>IIr *dhiyām*>Skt *dhiyām,* cp Gk *kiôn,* cp Av *sraya=sriya*<IIr *šriyā*<IE *k̂riya*<IE *k̂rī+a.*

IE *dhī+i*>IE *dhiyi*>IIr *dhiyi*>Skt *dhiyi,* cp Gk *kií.*

IE *bhrū+ōm* > IE *bhruwōm* > IIr *bhruvām*>Skt *bhruvām,* cp Gk *ophrúōn.*

IE *yu-yu* + *ai* > IE *yuyuwai* > IIr *yuyuvai* > Skt (Vd) *yuyuve*.

IE *tr̥* + *e ti* > IE *tr̥reti* > IIr *tr̥rati* > Skt (Vd) *tirati*.

IE *g^w r̥* + *u s* > IE *g^w r̥rus* > IIr *gr̥ruš* > Skt *guruḥ*, Av *gouruš*, Gk *barús*, Goth *kaúrus*.

IE *pl̥* + *u-s* > IE *pl̥lus* > IIr *pr̥ruš* > Skt *puruḥ*, Av *pauruš*, OP *paru-*, Gk *polús*.

IE *sm̥* + *o-s* > IE *sm̥mos* > IIr *samas* > Skt *samaḥ*, Av & OP *hama-*, Gk *-hamoś*, Goth *sums*.

IE *tn̥* + *u-* > IE *tn̥nu-* > IIr *tanu* > Skt *tanu-*, Av *tanu-*, Gk *tanú-*, OCS *tĭnŭkŭ*.

231. Skt *ă* + *ĭ* > Skt *e*

In this sandhi Skt *a* + *ĭ* > Skt *e* is quite historical as it is traceable to IIr *a* + *ĭ* > IIr *ai* and to IE *a/e/o* + *ĭ* > IE *ai/ei/oi*; but Skt *ā* + *ĭ* > Skt *e* is not historical as IIr *ā* + *ĭ* > IIr *āi* (< IE *ā/ē/ō* + *ĭ* > IE *āi*, *ēi*, *ōi*) which should have became Skt *ai*; secondly Skt *ā* + *ĭ* > Skt *e* is found mostly is external sandhi and in sandhi in compounds.

Internal Sandhi

IE *wl̥q^w o* + *i* (Loc sg) > IE *wl̥q^w oi* > IIr *vr̥kai* > Skt *vr̥ke* Av *vəhrkaē ca*, Gk *lúkoi*.

IE *bhero* + *ī-s* > IE *bherois* > IIr *bharaiš* > Skt *bhareḥ*, Av *barōiš*, Gk *phréois*, Goth *baíráis*.

Compounds.

Skt *mahā* + *īśaḥ* > *maheśaḥ*.

External

Skt *tiṣṭha* + *iha* > *tiṣṭhehə*. Skt *tadā* + *īśaḥ* > *tadeśaḥ*.

232. Skt *ă* + *ŭ* > *o*

In this sandhi also *a* + *ŭ* > o (= IIr a + *ŭ* > IIr *au* = IE *a/e/o* + *ŭ* > IE *au/eu/ou*) is quite historical (like *a* + *ĭ* > *e* 231) and Skt *ā* + *ŭ* > o is an innovation in Skt (like *ā* + *ĭ* > *e* 231).

Internal

IE *w-e* + *uq^w-e-t* > IE *weuq^w et* > IIr *vaucat* > Skt (Vd) *vocat*

Compounds

Skt *chala*+*uktiḥ*>Skt *chaloktiḥ*

External

Skt *atha*+*uvāca*>*athovāca*; Skt *tadā*+*ūrdhvam*>*tadordhvam*

233. Skt *ă*+*r̥̆*> Skt *ar*

Here also *a*+*r̥̆*>*ar* is historical (like 231) and *ā*+*r̥̆*>*ar* (instead of *ār*) is an innovation in Skt, with shortening of *ā* to *a*.

Skt *sapta*+*r̥ṣayaḥ*>*saptarṣayaḥ* (RV also reads *saptarṣayaḥ* but writes *sapta-r̥ṣayaḥ*).

Skt *śīta*+*r̥tu-*>*śītartu-*

Skt *mahā*+*r̥ṣi-*>*maharṣi-*

233a. In RV *ā*+*r̥*>sometimes *a-r̥* (e.g. *tatha-r̥tu* < *tathā-r̥tu-*) and sometimes *ām̥r̥* (e.g. *vipanyām̥r̥tayasya*<*vipanyā*+*r̥tasya*).

234. Skt *ă*+*e*/*ai*>Skt *ai* and Skt *ă*+*o*/*au*>Skt *au*

These sandhis are quite historical since they are respectively traceable to IIr *ă* (<IE *ă*/*ĕ*/*ŏ*)+IIr *ăi* (<IE *ăi*/*ĕi*/*ŏi*)>IIr *āi* (<IE *āi*/*ēi*/*ōi*)>Skt *ai* and to IIr *ă* (<IE *ă*/*ĕ*/*ŏ*)+IIr *ău* (<IE *ău*/*ĕu*/*ŏu*)>IIr *āu* (<IE *āu*/*ēu*/*ōu*)>Skt *au*

Internal

IE *wl̥qʷo*+*ois* > IE *wl̥qʷōis* > IIr *vr̥kāiš*> Skt *vr̥kaiḥ*, Av *vəhrkāiš*, cp Gk *lúkois*<**lukōis*

IE *to*+*ou*>IE *tōu*>IIr *tāu*> Skt *tau*, Av *tā̊*, cp Av *tā*, Gk *tō*<IE *tō*<IE *tōu*

Compounds

Skt *vana*+*okasaḥ*>*vanaukasaḥ*

Skt *indra*+*airāvatau*>*indrairāvatau*

External

Skt *atha*+*eṣa*>*athaiṣa*

Skt *tathā*+*ekā*>*tathaikā*

Skt *tava*+*aiśvaryam*>*tavaiśvaryam*

Skt *tasya*+*audāryam*>*tasyaudāryam*

235. Skt *e/o* + *a* > *ay/av* + *a* in internal sandhi. This is quite historical since this is traceable to IIr *ai* (< IE *ai/ei/oi*) + *a* (< IE *a/e/o*) and *au* (< IE *au/eu/ou*) + *a* (< IE *a/e/o*).

IE *owei* + *es* > IE *oweyes* > IIr *avayas* > Skt *avayaḥ* (= *ave* + *aḥ*), cp Av *garayō* Gk *páleis*(< -*eyes*).

IE *bhāĝheu* + *es* > IE *bhāĝhew-es* > IIr *bhāžhavas* > Skt *bāhavaḥ*, Av *bāzavō*, Gk *pḗkhees* (< -*ewes*).

236. Skt *e/o* + *a* > *e'/o'* (with *a* lost) in external sandhi. The loss of *a* is indicated by the mark ' after *e/o* (i.e. *e'/o'*). This sandhi is an innovation in Skt.

Skt *te* + *atra* > *te'tra*

Skt *sūno* + *atra* > *sūno'tra*.

In Vedic this *a* is often to be pronounced though not written. In RV in *víśve devā́so aptúraḥ*, *a* is written and metrically needed. In some cases like *sūnávè'gne* which is to be read as *sūnávĕ ágne*, the unwritten *a* is needed by metre. In classical of course the loss of *a* is compulsory. It is highly probable that in RV *e*, *o* were pronounced as *ai*, *au* and therefore the forms like *sūnáve ágne* presuppose a reading like *sūnávay ágne*.

237. Skt *e/o* + any vowel (except *a*) > *ay/av* + the vowel. In external sandhi however this *y*, *v* were often dropped.

Internal

IE *k̂ei* + *u-* > IE *k̂eyu-* > IIr *šayu-* > Skt *śayu-* 'lying' (cp Skt *śete* < IE *k̂eitai*, Gk *keitai* etc)

IE g^{w}*ou* + *i* > IE g^{w}*owi* > IIr *gavi* > Skt *gavi*, cp Gk *boí*

External

Skt *te āsan* > *ta āsan*

Skt *ye iha* > *ya iha*

Skt *sūno iha* > *sunav iha*

Skt *vāyo ukthebhiḥ* > *vāya ukthebhiḥ*

238. Skt *ai/au* + any vowel > *āy/āu* + the vowel. This is quite historical. In external sandhi *y/v* were often dropped.

Internal

IE *rēi* + *es* > IE *rēyes* > IIr *rāyas* > Skt *rāyaḥ*

IE *g^w ōu + es* > IE *g^w ōwes* > IIr *gāvas* > Skt *gāvaḥ*, Av *gāvō*, cp Gk *bóes*

IE *nāu + i* > IE *nāwi* > IIr *nāvi* > Skt *nāvi*, cp Gk *nēí*.

External

Skt *tau + abharatām* > Skt *tā(v) abharatām*, cp Gk *tō epherétēn* (generalized).

Skt *tasmai indrāya* > *tasmā indrāya*.

239. Absence of Vowel Sandhi in Skt

(a) The duals ending in *-ī*, *-ū* and *-e* are not combined with a following vowel; e g. *munī atra*, *sādhū asmai*, *aśve ime*.

(b) *amī* (Nom pl of demonstrative '*asau*') is also never combined with a following vowel; e.g. *amī aśvāḥ*.

(c) In Vedic the verbal dual *-e* and the *-e* of the pronominal loc *tvé*, *asmé*, *yuṣmé* is never combined with a following vowel; e.g., *parimamnā́the asmān*, *asmé āyuḥ* etc.

(d) In Vedic the rare loc forms in *ī* (e.g. *védī*), *ū* (e.g. *tanū* and some nom sg forms in *–ī* (e.g. *pṛ̥thivī*) and some inst sg forms in *–ī* are often not combined with a following vowel.

(e) The particle *u* is never combined with a following vowel in Vedic (and therefore in Padapāṭha this is always written '*ū iti*'). The particles *o*, *atho*, *uto* and *mo* (which are actually combinations of *ā*, *atha*, *uta*, & *mā* with *u*) also are not combined with a following vowel; e.g. *bhā́ u aṃśáve*, *átho indrāya*.

(f) Vedic sometimes shows strange exceptions to vowel sandhi and absence of vowel sandhi. e.g. *dhíṣṇyemé* (RV VII 72.3) < *dhisṇye + ime*. (But it is not improbable that such cases may not be exceptions to vowel sandhi and may have a different analysis. e.g. *dhiṣṇye me* > *dhiṣṇye + me* instead of *ime*, with the rare demonstrative *ma-* besides *ama-*, *ima-* etc.

240. There are some special cases *ă + i*, *u*, *ṛ* > *ai*/*au*/*ār* (instead of normal *e*, *o*, *ar*). These cases sometimes show some inherited forms from IIr without shortening of the preceding *ā* to *a* (Vide above 231, 232, 233); But there are also some cases which are innovations e.g. *ā́rti* < *ā́ + ṛ́ti* is original but *úpārchati* < *úpa + ṛcchati* may be an innovation.

CHAPTER XVII

Sandhi–Consonant Sandhi

241. Treatment of Final Consonants in Skt

(a) Normally *k*, *ṭ*, *t*, *p*, *n*, *ṅ*, *m* and *ḥ* are permissible finals in Skt. Traditional grammars alternatively suggest *g*, *ḍ*, *d*, *b* as final as well; but the written texts donot affirm it. Thus a final *kh*, *g*, *gh*>*k* always; similarly also *th*, *d*, *dh*>*t*; a final *s*, *ṣ*, *r* >*ḥ* normally (264); but sometimes apparently a final *s*>*t* and *ṣ*>*ṭ* respectively (which are actually cases of *ss*>*ts*>*t* finally (155a) and *ṣṣ*>*ṭṣ*>*ṭ* finally (155c–ii)).

(b) Normally a single consonant is final in Skt. As a rule the first consonant of a conjunct group is retained. e.g. *abharan* > IE *ebheront*, *tān* > IE *tons*, *bharan*<IE *bheronts*, *vāk*<IE *wōq*^{w}*s* cp Av *vāχš*, Gk *ṓps*.

Exceptions are however found, as sometimes *rk*(*ūrk*<**ūrks*), *rt* (*āvart*), *rṭ* (*amārṭ*) are allowed as final conjuncts. (But cp *akaḥ*<*akar*<**akart*).

Some rare exceptions are found where the second consonant is retained instead of the first due to analogical influence of other words, e.g. *sadha-mās* beside *sadha-māt* (for *sadha-mād*+*s*), *ava yās* (for *ava yāj*+*s*), *puroḍās* (for *puro-ḍāś*+*s*), *ayās* (for *a-yāj*+*s*) beside *ayāṭ*; *asrās* (for *a-srāj-s*), *a-bhanas* (for *a-bhanak*+*s*) and *asrat* (for *a-sras*+*t*).

242. Assimilation in Consonant Sandhi in IE, IIr & Skt

Normally there is regressive assimilation i.e. the second consonant assimilates the first partly or fully. If the second is voiced the first becomes voiced, if the second is voiceless the first becomes voiceless, if the second is a nasal the first becomes a nasal or nasalised. In a considerably few cases there is mutual assimilation as well; (e.g, *tatśubhram* > **tac-śubhram* >

tac–chubhram etc; and the cases coming under Bartholomae's law (287) e.g. *idh+ta-* > *id-dha-*). Some of the assimilations are inherited from IE and some from IIr, and the rest are obviously innovations in Skt.

The voicing or devoicing of a plosive or a sibilant before a voiced or voiceless plosive or sibilant respectively is undoubtedly of IE origin. But voicing of voiceless plosives before vowels and semi-vowels (which are also voiced sounds) has started from the IIr period and complete assimilation of consonant by another consonant in external sandhi is an innovation in Skt.

Some examples may be cited to illustrate the sandhi in different stages from IE to Skt.

IE Stage :

IE *yug+to-*>*yuq-to-* cp Skt *yukta-*, Av *yuχtō*, Gk *zeúktos*, Lat *iunctus* etc.

IE *wid+to-*>*wit-to-* cp Skt *vit-ta-* cp Av *vista-*<**vit*^{s}*ta-*

IE *wōq*^{w}*+bhis*>*wōg*^{w}*–bhis* cp Skt *vāgbhiḥ* cp Av *vāγžibiš* <**vāγžbiš*<**vāγbiš*.

IE *yod+tod*>*yot–tod* cp Skt *yat–tat* Av *yastat* (<**yat*^{s}*tat*)

IE *tod+pedom*>*tot–pedom* cp Skt *tat–padam* Av *tat paδəm* Ht *tat pedan*

IE *ebheret+g*^{w}*ōus*>*ebhered–g*^{w}*ōus* cp Skt *abharad gauḥ*

IE *potis+didōti*>*potiz–didōti* cp Skt *patir dadāti*, cp Gk *Athḗnaze* (= *Athḗnazde*>*Athḗnas+de*).

IIr innovations

IE *edōt+epi*>*edōt–epi* but IIr *adāt+api*>*adād–api* cp Skt *adād api*.

IE *dus+uq*^{w}*to-*>*dus-uq*^{w}*to-* but IIr *duṣ+ukta-*>*duẓ–ukta-* cp Skt *dur ukta-*, Av *duž-uχta-*.

IE *yos+wē*>*yos–wē* but IIr *yas+vā*>*yaz–vā* cp Skt *yo vā* (Av *yō vā* is due to a generalization of IIr *yas*>Av *yo*).

Further also

IE *s*>IIr *š* before IIr *c* e.g.

IE *q*^{w}*os q*^{w}*id* > IIr *kaš-cid* > Skt *kaś-cit*, Av *kas cit*, OP *kaš-ciy* (154)

Compare the forms in internal sandhi where the voicing of the voiceless plosives and *s* before vowels do not occur, e.g., *manasaḥ* (<*manas*+*ah* < IIr *manas–as*, cp Av *manaŋh-ō*<IE *menes-os*, cp Gk *méneos*), *bhūbhr̥taḥ* (< *bhūbhr̥t* + *aḥ* < IIr *bhūbhr̥t–as*, cp Av *-bərətō*<IE *bhūbhr̥t-os*, cp Gk *nukt ós*), *vacaḥ* (<*vac-aḥ*<IIr *vac-as* cp Av *vacō*, <IE *weqʷ-es*/*ueqʷ os* cp Gk *épos*).

OIA innovations

Assimilation of non-nasals into nasals is clearly a late innovation in Skt, because in internal sandhi this is quite rare and occurs only in one or two cases; e.g. *ṣaṇṇām* (also in Vd) (<*ṣaṭ ṇām*), and *ṣaṇṇavati* (late form) (<*ṣaṭ-navati*); besides the primary suffix *-na* assimilates *-d–* (but not *–t-*), e.g. *anna* (<*ad-na-*), *bhinna-* (<*bhid-na-*) etc. In external sandhi the following are clearly innovations in Skt :

t/*d*+*l*>*ll* (246), *t*/*d*+*c*>*cc* (247), *t*/*d*+*j*>*jj* (247), *t*/*d*+*ś* >*cch* (247), *t*/*d*+ṭ>ṭṭ (248), *t*/*d*+*ḍ*>*ḍḍ* (248), *t*/*d*+*h*>*ddh* (249), *k*/*g*+*h*>*ggh* (249), *p*/*b*+*h*>*bbh* (249), short vowel—nasal+vowel>short vowel—reduplicated nasal+vowel (250).

243. Voiceless (non-aspirate) plosives and *s* are transformed into their corresponding voiced (non aspirate) consonants (i.e. *k*, ṭ, *t*, *p*, *s*>*g*, *ḍ*, *d*. *b*, **z* respectively) when they are followed by voiced sounds including voiced non-aspirates, voiced aspirates *y*, *r*, *l*, *v* and vowels, e.g. *āsīt*+*gauḥ* > *āsīd–gauḥ*, *āsīt*+*rājā*>*āsīd–rājā*, *abharat*+*annam* > *abharad-annam*, *avadat*+*vacaḥ*>*avadad-vacaḥ*, *yas*+*vā*>**yaz–vā*>*yo vā* (Av *yo vā*).

In IE sandhi and in Skt internal sandhi the voicing did not occur before *y*, *r*, *l*, *v*, *m*, *n* and vowels e.g. Skt *pat ati*, *pāt-ya-te*, *cak-re*, *vi-vak-mi*.

244. Voiced aspirates and non-aspirates became voiceless non-aspirates before voiceless non-aspirates. Examples of these cannot be properly cited from external sandhi, because final voiced sounds always become voiceless. Thus Skt *tattat* is to be analysed as *tat*+*tat*, although it comes from IIr *tad*+*tad* (<IE

tod+*tod*), because IIr *tad* becomes invariably *tat* in Skt, unless it is followed by a voiced sound; e.g. *tad-dānam*. Internal sandhi has enough examples of this change, *ap*+*ja-*>*abja-*, *dad*+*te*> *datte* (cp Av *dastē* <IIr *dattai*<*dad*+*tai*<IE *dettai*<*ded*+*tai*), *kṣut pipāse*<*kṣudh*+*pipāse*.

244a. But in internal sandhi a voiced aspirate +*t*>a voiced non-aspirate +*dh* (which is inherited from IIr, by Bartholomae's law) e.g. *krudh*+*ta-*>*krud—dha-* (**71c–i**).

245. A nasal assimilated a preceding plosive into its class nasal (although the traditional grammars prescribe alternatively a voiced stop instead of the nasal), in external sandhi mainly; e.g. *vāk*+*maya-*>*vāṅ- maya-*(alternatively prescribed form *vāg–maya-*), *mṛt*+*maya-*>*mṛṇ–maya-* (alternatively *mṛd-maya-*).

Internal sandhi also shows a few examples; e g., *anna-* (<*ad-na-*), *ṣaṇṇām* (<*ṣaṭ nām*) (242).

In one or two cases the voiced sound is retained instead of the nasal, e.g., *vāg-mī* for **vāṅ-mī*<*vāk*+*mī*.

246. *t/d*+*l*>*ll* (instead of *dl*) e.g. *tal-labdham*<*tat*+*labdham* IIr *tad*+*labdham*. Internal sandhi also shows traces of this change, e.g. *kṣullaka-* (AV)<**ksudlaka-* beside *kṣud-ra-*.

247. *t/d*+*c(h)*>*cc(h)*; *t/d*+*j(h)* < *jj(h)*; *t/d*+*ś* > *cch* e g. *ut*+*ca-* > *ucca-* (cp Av *usca-* IE *ut-qʷe* < *ud*+*qʷe*); *tat*+*ca* > *tac ca* (<IE *tod*+*qʷe*); *tat*+*jal m* > *taj-jalam* (<IE *tod*+ *gelom*); *tat*+*śibam*>*tac chibam* (through **tac-śibam*).

248. *t/d*+*ṭ(h)*>*ṭṭ(h)*, *t/d*+*ḍ(h)*>*ḍḍ(h)* *adāṭ ṭīkām* (<*adāt-ṭīkām*), *uḍ-ḍīna-*<*ut-ḍīna* .

249. *t/d*+*h*>*ddh;k/g*+*h*>*ggh* (*p/b*+*h*>*bbh*) e.g. *tat*+*hi*>*tad-dhi*; *prāk*+*havanam*>*prāgghavanam*.

250. Final nasal *n*, *ṅ*, *ṇ* were reduplicated when preceded by short vowels and followed by vowels, e.g. *bharan*+*api* > *bharann-api*, *pratyaṅ*+*āste*>*pratyaṅṅ–āste*. But they were not reduplicated when preceded by long vowels, e.g. *mahān*+*api*> *mahān–api*. *m* was not reduplicated, e.g. *taṁ-api*.

This reduplication of *n*, *ṇ*, *ṅ* has the following linguistic history. In many cases final *n*, *ṇ*, *ṅ* were originally followed by other consonants, which had been lost in final positions. They might have had a very weak articulation and as a result of which they were assimilated with the preceding nasal before being dropped. This reduplication was maintained only after short vowels, to retain the original heavy syllable and not after the long vowels as the preceding long vowel could itself form the heavy syllable.

250a. The so called exceptional example *vṛṣan-aśvaḥ* (instead of -*ṇṇ*-) really indicates an etymologically justified word (< IE *wṛsen-eḱwos* and not *wṛsent-eḱwos*); whereas Skt *gacchann-aśvaḥ* < IE *gʷṃsḱent eḱwos* or *gʷṃsḱents eḱwos*.

251. Final *n* preceded by a long vowel and followed by vowels has no change in classical Skt (e.g. *bhavān-api* < *bhavān*+*api*); but in Vedic it is changed in the following manner :

ān>*āṃ*, *īn*>*īṃr*, *ūn*>*ūṃr*, *ṝn*>*ṝṃr* (these are respectively < *āns*, *īns*, *ūns* *ṝns* which became *ānz*, *īnz*, *ūnz*, *ṝnz* before vowels and finally *āṃ*, *īṃr*, *ūṃr*, *ṝṃr*) e.g. *sargāṃ iva* (<*sargān* + *iva*<*-*nz*-*iva*<*-*ns*-*iva*) (classical Skt *sargān iva*), *avīṃr iva* (<*avīn*+*iva*<*īnz*–*iva* < *īns*–*iva*) (cl Skt *avīn-iva*), *paśūṃ*ᐧ-*iva* (cl Skt *paśūn iva*), *nṝṃr abhi* (cl Skt *nṝn abhi*).

252. *n*+*s*>*ṃs* e.g. *haṃsi*<*han*+*si*<IE *gʷhensi* cp Ht *gwesi*/*gwentsi*.

253. *n*+ a palatal consonant>*ñ*+ the palatal consonant (but see 256) e.g. *tān*+*janān*>*tāñ-janān*.

254. *n*+ a cerebral consonant>*ṇ*+ the cerebral consonant (but see 256), e.g. *apaśyan*+*ḍākinīm*>*apaśyaṇ*–*ḍākinīn*.

255. *n*+*l*>*l̐*–*l* (i.e. *n*>a nasalized *l*; often represented in texts by nasalizing the preceding vowel, instead of the *l*) e.g. *tān lokān*>*tāl̐-lokān* (written also *tā̐l-lokān*).

256. *n*+*c(h)*, *ṭ(h)*, *t(h)* respectively developed *ś*, *ṣ*, *s* between *n* and the following sound. The *n* then becomes *ṃ* which is

usual before a sibilant. This *ś*, *ṣ*, *s* which appear to be glidic actually represent in most of the cases an original *s* which followed *n*.

tāṃśca < *tān* + *ca* < **tāns* + *ca* < IE *tons* + *q*^{w}*e* cp Gk (Cretan) *tons te*.

tāṃs-tān < *tān* + *tān* < **tāns* + *tāns* < IE *tons* + *tons*.

mahāṃstaruḥ < *mahān* + *taruḥ* < **mahāns* + *taruḥ* < **mahānts* + *taruḥ*

But forms like *kasmiṃścit* (<*kasmin* + *cit*) or *rājaṃstatra* (<*rājan* + *tatra*) are analogical formations modelled after the above historically justified cases.

But *n*(<*ns*)+*j* (253) etc donot show the historical *s*, because in these cases *s*>*z* and was lost and then the normal sandhi occurred; e g. *n(s)+j*>*n(z)+j*>*nj*>*ñj* etc.

257. *n*(<*ns*)+*p*>sometimes *ṃḫp* in Vedic, which is historically justified like the above sandhi in 256 e.g. *nṝṃḫ pāhi* < *nṝn pāhi* < **nṝns pāhi*.

258. *m* remains *m* before vowels e.g. *agnim iḷe*, *jalam ānaya* etc.

258a. In some cases in RV some western scholars think that -*m* was dropped before vowels. e.g. *rāṣṭrám ihá* is to be read as *raṣṭrehá*, and *durgráhaitát* for *durgráham état* (But Pada text analysis *durgrahā etat*). (Vide **390a** for an alternative suggestion).

259. *m*>*ṃ* or class nasal before stops. Normally texts show *ṃ* in external sandhi and class nasal in internal sandhi. e.g. *tam kavim*>*taṅ kavim* or *taṃ kavim*, *tam tam* > *tan tam* or *taṃ tam*. In internal sandhi *śām*+*ta*- > *śān-ta*-, *kām*+*ta*- > *kān-ta*, *ram* + *tum*>*rantum* etc.

260. *m*+*n*>*nn* or *ṃn* in external sandhi e.g. *bhadram*+*naḥ* > *bhadran-naḥ* or *bhadraṃ-naḥ*; but in internal sandhi *m*+*n* remained *mn*; e.g. *śam-nāti* (Vd) <*śam*+*nāti* cp Gk *kámnō*.

261. *m* > *ṃ* before *ś*, *ṣ*, *s*, *h* both in external and internal sandhi. e.g. *tam*+*śiśum*>*taṃ śiśum*, *sam*+*saktaḥ*>*saṃ saktaḥ*, *sam*+*hataḥ*>*saṃ hataḥ*.

262. *m* > *ṃ* before *r* always in external sandhi (excluding *samrāṭ*) e.g. *sam* + *ramate* > *saṃ-ramate;* but in internal *m* remains *m* before *r* e.g. *nam-ra-*, *vam-ra-* (Vd), *kam-ra-* etc.

263. *m*>*ṃ* before *y*, *v*, *l* (in vedic optionally *m*>*ỹ*, *ṽ*, *l̃* before *y*, *v*, *l* respectively beside *ṃ*) in external sandhi e.g. *saṃ yudhi* Vedic optionally *sa ỹ yudhi*).

263a. But *m* > *n* before *v* in internal sandhi e.g. *jaganvān* < *jagam-vān* < IE $g^w eg^w omw\bar{o}s$.

264. Final *s*, *ṣ*, *r* > *ḥ* in Skt if followed by voiceless stops or in sentence-final position e.g.

aviḥ < **aviṣ* < IIr *aviš* < IE *owis*, cp Gk *ois*

kaḥ < **kas* < IIr *kas* < IE $q^w os$, cp Lat *quus*

antaḥ < **antar* < IIr *antar* < IE *enter*, cp Lat *inter*.

265. Since final *s*,*ṣ*,*r*>*ḥ* and since sometimes *r* corresponds to an IE *s*, Skt has almost confused the sandhi treatment of final *s*,*ṣ*,*r* with a following sound. This is called Visarga sandhi in traditional Grammars, taking *ḥ*(<*s*,*ṣ*,*r*) as the final sound of the first word. In the following sections this descriptive treatment of traditional grammars may be presented with due history, for a comprehensive picture of Sanskrit Sandhi.

It should be remembered that *r*>*ḥ*, *ś*, *s*, *ṣ* etc are innovations in Skt.

266. *ḥ*+*t*(*h*)>*st*(*h*), e.g.

kaḥ+*te* > *kas te* (cp Av *kō*+*te* > *kaste*) < IIr *kas tai* < IE $q^w os$ *toi*

kaḥ+*tvām* > *kastvām* (cp Av *kō*+*θwąm* > *kasəθwąm* < IIr *kas-tvām* < IE $q^w os$-*twēm*

punaḥ+*tam* (=*punar*+*tam*)>*punastam*.

agniḥ+*te*(=*agniṣ*+*te*)>cl *agniste* (vd *agniṣṭe*) (Vide 266).

In these forms the types represented by *punastam*, & cl Skt *agniste* are new formations in Skt.

267. *ḥ + t(h) > ṣṭ(h)* sometimes in Vedic when *ḥ* was preceded by *ĭ/ŭ/ṛ* etc e.g.

agniḥ + te > vd *agniṣṭe* (cl *agniste*).

duḥ + tara > vd *duṣṭara* (cl *dustara-*).

Exception in Vd *catustriṃśat* (also cl).

268. *ḥ + c(h) > ś(c)h*

kah + ca > kaśca (cp Av *kas-ca* < IE *q^w os q^w e*)

pūr + ca (= *pūr + ca*) > *pūśca*

punaḥ + ca (= *punar + ca*) > *punaśca*.

Original *r* retained in *svar-cakṣus-*.

269. *ḥ + k(h) > ḥ/ẖ + k(h)* and *ḥ + p(h) > ḥ/ḫ + p(h)* (i.e. *ḥ* > optionally *ẖ* (*jihvāmūlīya*) before velars and *ḫ* (*upadhmānīya*) before labials. e.g. *naraḥ kaḥ* or *naraẖ kaḥ*, *divaḥ putraḥ* or *divaḫ putraḥ*. But in RV often *ḥ > s/ṣ* etc (as in 265–267) before *p, k* etc. e.g. *divas pari*, *dyauṣ pitā* etc.

270. *ḥ + s > ḥs* or *ss* (or even *s*) (Vide 155 for full history). e g. *manaḥsu* or *manassu* (or *manasu*) < *manaḥ + su*, similarly also *ḥ + ś > ḥś* or *śś* e.g. *vaḥ śibastamaḥ* or *vaś śibastamaḥ* etc.

Forms like *manassu* etc are original and *manaḥsu* etc are analogical formations after *manaḥ* etc.

271. *ḥ* was dropped before a conjunct of a sibilant and a voiceless stop or a nasal ar semivowel, in Vedic. e.g. *duṣṭuti-* (< **duṣ ṣṭuti-*), *nisravam* (< *nis-sravam*) etc.

This sandhi is historical since in IE *s + s* became optionally *s*; e.g. *es + si > esi* or *essi* (155(b)).

272. *ḥ > r*, when preceded by a vowel other than *ă* and followed by a voiced sound (including a vowel and semi vowel) (242); e.g. *duḥ + gataḥ > durgataḥ* (< IIr *duẓ-gatas* < IE *duz-g^w m̥tos*); *aviḥ + asi > avir asi* (< IIr *aviẓ asi* < IE *owis esi*); *duḥ + uktaḥ > duruktaḥ* (< IIr *duẓ uktas* cp Av *dužuxtō* < IE *dus uq^w tos*) *duḥ + itam > duritam* (< IIr *duẓ itam* cp Av *dužitəm* < IE *dus itom*)

Thus this sandhi is historically rhotacism of IIr *ẓ* in Skt (157).

273. *ḥ*>lost, when preceded by *ā* and followed by voiced sounds (including vowels and semivowels); e.g.

aśvāḥ + *bharanti* > *aśvā bharanti* (<IIr *ašvā bharanti* < *ašvāz bharanti* cp Av *aspā barənti*<*aspå barənti*).

Thus historically this sandhi indicates loss of IIr *z* after *ā* (164–iii).

274. *ḥ*>lost when preceded by *a* and followed by vowels excluding *a*, e.g.
aśvaḥ + *iha*>*aśva iha* (<IIr *ašvaz idha*<IE *eḱwos idhe*); *vṛkaḥ* + *āsīt*>*vṛka āsīt* (<IIr *vṛkaz āst*<IE *wḷqʷos ēst*).

275. *ḥ*>lost, when preceded by *a* and followed by *a* or a voiced consonant (including semivowels); but the preceding *a* is changed into *o* (in external sandhi) and the following *a* is lost as in vowel sandhi (236) and optionally retained in Vedic

(236). The history of this *aḥ* > *o* is same as the history of IIr *az*>Skt *o* (164–i). e.g.
vṛkaḥ + *gacchati* > *vṛko gacchati* (< IIr *vṛkas gaššati*, cp Av *vəhrkō jasaiti*<IE *wḷqʷos gʷṃsḱeti*).
yaḥ + *vā*>*yo vā* (<IIr *yaz vā* cp Av *yo vā*<IE *yos wē*).
yaḥ + *aham*>*yo' ham*.

276. But *ḥ*>*r* (264) does not have the same change after *ă* as in 273–275 but remains *r*, e.g.
prātar adya<*prātaḥ adya* (ḥ<original *r*).

277. ḥ(<*r*) followed by another *r* is lost after lengthening of the preceding vowel, e.g. *punar ramate*>*punā ramate*.

278. ḥ>lost after the pronominal forms *saḥ*, *eṣaḥ* and (Vedic) *syaḥ*, unless they are in sentence-final positions. And before the vowel *a* the *aḥ*>*o* as in 275. e.g. *sa gacchati*, *sa rājā*, (but *gacchati saḥ*); *so'ham* (< *saḥ* + *aham*) Vedic also *so asuraḥ* (275).

After the loss of ḥ of *saḥ* etc further sandhi is normally not permissible but RV often shows further sandhi; e.g. *set* < *sa* + *it* < *saḥ* + *it*. In rare cases in classical Skt also, e.g. *saiṣa dāśarathī rāmaḥ*.

The historical fact is that *sa* and *saḥ* (like wise *eṣa* & *esaḥ*; and *sya* & *syaḥ*) are two different formations, coming respectively from the stem with NIL ending and -*s* ending(537 etc.), i.e. *sa* < IE *so*, cp Gk *hó*, Goth *sa* & *saḥ* < IE *sos*, cp Ht *sas*, Av *hō*. Skt restricted *sa* and *saḥ* to certain positions.

279. Certain other details of internal consonant sandhi are given along with treatment of conjuncts in phonology; such as *j* + *t* > *kt* & *ṣṭ* (e.g. *yukta-* and *iṣṭa-*) (76 etc); *ch* + *t* > *ṣṭ* (e.g. *pṛch* + *ta-* > *pṛṣṭa* is actually a case of *ś* + *t* < IE *pṛk̂to-* besides *pṛchati* < IE *pṛk̂–sk̂e-ti* (81a).

CHAPTER XVIII

Some Important Phonetic Laws

280. Grimm's Law

This was first of all roughly formulated by Rask and then it was systematized by Jackob Grimm and is known by his name. The law, most briefly may be stated as follows :—

The Germanic languages show a systematic shift of IE plosives, because the IE voiced aspirates became deaspirated in Germanic (perhaps with spirantization also), the voiced non-aspirates became voiceless non-aspirates and the voiceless non-aspirates (along with the voiceless aspirates) became voiceless spirants. Or, in other words, IE *bh*, *dh*, *ĝh*, *gh*, g^wh became *b*, *d*, *g*, *g*, g^w (or spirants β, δ, γ, γ, γ^w) and IE *b*, *d*, *ĝ*, *g*, g^w became *p*, *t*, *k*, *k*, *kw* and IE *p(h)*, *t(h)*, *k̂(h)*, *q(h)*, $q^w(h)$ became *f*, θ, χ, χ, χ*w* respectively.

As far as the treatment of voiced aspirates in Germanic is concerned some think that they became voiced non-aspirates, where as others think that they became voiced spirants in Proto-Germanic and subsequently they have become stops under certain circumstances in some branches.

OHG shows a further shift of consonants, which is known as the second sound shift (282), in contrast to the shift in Proto-Germanic which is termed as the first sound-shift.

281. The First Sound Shift

(a) IE voiced aspirates > Germanic voiced non-aspirates (or voiced spirants)

IE *bh*>Gmc *b* (or β), Goth *b* (written *b* always, but to be read as *b* initially and medially after *m*, otherwise to be read as β).

IE *bher-* (cp Skt *bharāmi*, Gk *phérō*) > Goth *bairan*, OE, OS & OHG *beran*, OIcel *bera*

IE *bhrātēr* (cp Skt *bhrātā*, Gk *phrā́tēr*>Goth *brōþar*, OE *brōðor*, OS *brōthar* OHG *bruoder*, OIcel *brōðir*

IE *dh*>Gmc *d* (or ð) Goth *d* (written *d* always, but to be read as *d* initially and medially after *n*, otherwise to be read as ð).
IE *dhē-* (cp Skt *dhā*, Gk *títhēmi*)>Goth *ga-dēþs*, OE *dǣd*, OS *dād* OIcel *dāð*, OHG *tāt*.

IE *dhughətēr*/*dhuqtēr* (cp Skt *duhitā*, Gk *thugátēr*) > Goth *daúhtar*, OE *dohtor*, OS *dohter*, OHG *tohter*.

IE *ĝh* & *gh*>Gmc *g* (or γ), Goth *g* (written *g* always but to be read as *g* medially after ŋ, otherwise to be read as γ).

IE *steigh-* (cp Skt *stigh-*, Gk *steíkhō*)>Goth *steigan*. OIcel *stīga*, OS, OE, OHG *stīgan*.

IE *ĝheŋgh* (cp Skt *jaṅgh-*, Av *zaŋga-*, Lith *żengiu*)>Goth *gaggan*, OHG *gangan*, OIcel *ganga*.

IE g^wh>Gmc g^w, *g*, *w*, *b* (or γ^w, γ, *w*, β) >Goth *gw*, *g*, *w*, *b* (the written *g* & *b* are sometimes plosive and sometimes spirant, as given above)

IE *g^whormos* (cp Skt *gharmaḥ*, Lat *formus*, Gk *thermós*)>Goth *warmjan*, OHG *warm*, OIcel *varmr*

IE *g^whn̥tyā* (cp Skt *hatyā*, Gk *phónos*, Ht *gwentsi* etc) > Gmc *g(w)unθyō*>OIcel *gunnr* 'battle', OLG *gūdea* etc.

IE *dhog^{w}hos* (cp Skt *ni dāghaḥ*, Gk *téphra*) > Goth *dags*, OIcel *dagr*, OE *dæg*, OS *dag*, OHG *tag* etc.

(b) IE voiced non-aspirates > Gmc voiceless non-aspirates.

IE *b* > Gmc *p* > Goth *p*

IE *slēb* (cp OCS *slabŭ* 'slack') > Goth *slēpan*, OE *slǣpan*, OS *slāpan*, OHG *slāfan* 'to sleep'.

IE *dheub/dhub* (cp Lith *dubùs*) > Goth *diups*, OE *dēop*, OS *diop*, OIcel *djūpr*, OHG *tiof* 'deep'.

IE *d* > Gmc *t* > Goth *t*

IE *dek̂m̥* (cp Skt *daśa*, Gk *déka* Lat *decem*) > Goth *taíhun*, OIcel *tīo*, OE *tīen*, OS *tehan*, OHG *zehan* 'ten'.

IE *ped-/pod-* (cp Skt *pad-*, Lat *ped-*, Gk *pod-*) > Goth *fōtus*, OIcel *fōtr*, OE & OS *fōt*, OHG *fuoz* 'foot'.

IE *g/ĝ* > Gmc *k* > Goth *k*

IE *ĝenu/ĝneu-* (cp Skt *jānu*, Gk *gónu*, Lat *genu*) > Goth *kniu*, OE *cnēo*, OS & OHG *kneo*, OIcel *knē*.

IE *yugom* (cp Skt *yugam*, Gk *zúgon*, Lat *jugum*) > Goth *juk*, OE *geoc*, OHG *joh*.

IE g^w > Gmc *kw* > Goth *q*

IE g^w*īwos* (cp Skt *jīvah*, Gk *bíos* Lat *vīvus*) > Goth *qius*, OE *cwicu*, OS *quik*, OHG *quec*, OIcel *kvikr*.

IE g^w*em* (cp Skt *gam-* Gk *baínō*, Lat *veniō*) > Gorh *qiman*, OHG *qeman*, OE & OS *cuman*, OIcel *koma*

(c) IE voiceless non-aspirates (and aspirates) > voiceless spirants.

IE *p* > Gmc *f* > Goth *f*

IE *ped-/pod-* (cp Skt *pad-*, Gk *pod-*, Lat *ped-*) > Goth *fōtus*, OIcel *fōtr*, OE & OS *fōt*, OHG *fuoȝ*.

IE *pek̂u* (cp Skt *paśu-*, Lat *pecu*) > Goth *faíhu*, OE *feoh*, OS *fehu*, OIcet *fē* OHG *fihu* (*fehu*).

IE *t* > Gmc θ > Goth *þ*

IE *tŭ* (cp Skt *tvam*, Gk (Dor) *tú*, Lat *tu*) > Goth *þu*, OE & OIcel *þū*, OS *thū*, OHG *dū*

IE *bhrātēr* (cp Skt *bhrātā*, Gk *phrắt r* Lat *frāter*) > Goth *brōþar*, OE *brōðor*, OS *brōthar*, OIcel *brōðir*, OHG *bruoder*.

IE *k̂*, *q* > Gmc χ > Goth *h*

IE *dek̂m̥* (cp Skt *daśa*, Gk *deka*, Lat *decem*) > Goth *taíhun*, OS *tehan*, OHG *zehan* etc.

IE *qan-* (cp Skt *kaṅkaṇa-* Lat *canō* 'I sing') > Goth *hana*, OE *hana*, *hona*, OIcel *hane*, OHG & OS *hano* 'cock' (< *singer).

IE *qʷ* > Gmc χw > Goth *ƕ*

IE *qʷos* (cp Skt *kaḥ*, Lat *quis*, Gk *tís* etc) > Goth *ƕas*, OE *hwā*, OS *hwē*, OHG *hwer* etc.

282. The Second Sound Shift

Some of the consonants had further shift in High German dialects.

(i) Gmc *p*, *t*, *k* :—

(a) non initially after vowels Gmc *p* > OHG *ff* (OHG *slāfan*, cp Goth *slēpan* OE *slǝēpan* etc.)

t > OHG *ȝȝ* (= *ss*) (OHG *ëȝȝan* = *ëssan* cp Goth *itan*, OE *etan* etc)
k > OHG *hh* (written *h* also) (OHG *ih* cp Goth *ik* OE *ic*)

(b) initially and non initially after consonants

Gmc *p* > OHG *pf* (OHG *pfad*, cp OE *pæþ*)

Gmc *t* > OHG *z* = *ts* (OHG *zehan*, cp Goth *taíhun*)

Gmc *k* > *ch* = *kh* (in some dialects) (High Alemanic *chneo* but OHG *knio* (no shift) cp OE *cnēo* Goth *kniu* etc.

(ii) Gmc *b*, *d*, *g* (or β, δ, γ) > *p*, *t*, *k*

(in some H.G. dialects specially in upper German)

Gmc *b* (or β) > Up. G. *p* or *b* (*bëran*/*përan* cp Goth *bairan*).

Gmc *d* (or δ) > Up.G. *t* (*tohter* cp OE *dohtor*)

Gmc *g* (or γ) > Up.G. *k* (*kast* cp OE *giest*)

(iii) Gmc θ > OHG *d* (but Gmc χ, *f* > γ, *f*) (OHG *du* cp Goth *þu* etc)

283. Exceptions to Grimm's Law

(a) The IE voiceless plosives did not have the normal consonantal shift in Germanic, if they were in combination with a preceding *s*; in other words IE *sp*, *st*, *sk̂*/*sq* (> Gmc *sk*), *sq*^{w} (> Gmc *skw*) were retained in Germanic. e.g. Goth *ist* (cp Skt *asti*, Lat *est*), OHG *spehōn* (cp Lat *speciō* Skt *spaś*), Goth *fisks* (cp Lat *piscis*).

(b) IE *t* did not change if it was in combination with a preceding IE *p*, *k̂*/*q*, *q*^{w} (which in turn had the normal shift);e.g. Goth *ahtau* (< IE *ok̂tōu* cp Skt *aṣṭau* Gk *oktō*); OHG *nift* (cp Skt *naptā* Lat *neptis*).

(c) Other exceptions are explained by Verner's law and Grassmann's law.

284. Verner's Law

A non-initial Gmc *f*, θ, χ, χ*w* and *s* (< IE *p*, *t*, *k̂*/*q*, *g*^{w} and *s*) > Gmc *b*, *d*, *g*, *g*^{w} and *z* (or β, δ, γ, γ*w* and *z*), if the immediately preceding syllable was unaccented in IE, e.g.

Goth *fadar* < IE *pətér*, Skt *pitá*, Gk *patḗr* (but cp Goth *brōþar* < IE *bhrā́tēr*, Skt *bhrā́tā*, Gk *phrā́tēr*.)

Goth *sibun* < IE *septm̥*, Sk *saptá* Gk *heptá*

Goth *juggs* < Gmc *yungás* < IE *ynwn̥k̂ós* Skt *yuvośáḥ* Lat *juveneus*.
Goth *bairaza* < IE *bhéresai* Skt *bhárase* Gk *phéreai*.

285. Grassmann's Law

When two aspirates occurred in consecutive syllables, the first one of them, was de-aspirated in Skt and Gk. This development occurred independently in these two languages, e.g.

IE *dhidhēmi* > Skt *dadhāmi* (Av *dadąmi*) Gk *títhēmi*

IE *bhn̥ĝhus* > Skt *bahuḥ*, Hk *pakhús* (Ht *bangus*)

IE *bhāĝhus* > Skt *bāhuḥ* (Av *bāzuš*) Gk (Dor) *pâkhus*

IE *bheudhetai* > Skt *bodhate* Gk *peúthetai*

IE *bhebhondha* > Skt *babandha* Gk *pépontha*

IE *dhōgʷhos* > Skt *nidāghaḥ* (Goth *dags*) Ck *téphra* (< IE *dhegʷh-rā*)

Similarly Skt *ciccheda, cakhāda, jahāmi* (Av *zaząmi*), *johavīmi* (Av *zaozaomi*) *jaghāna* (Av *jaγnat*), *tiṣṭhāmi, parpharmi babhāra* (Av *bavara*), *bibharmi, babhūva* (Gk *péphūka*) etc.

Internal evidence in Skt also confirms that one of the aspirates was de-aspirated when two such sounds occurred in two consecutive syllable. This is clear from the fact that a root with an aspirate shows a non-aspirate universally in its reduplicated syllable e.g. √ *dhā:dadhāti*, √ *sthā:tiṣṭhati*, √ *bhū : babhūva*.

Often the aspiration was lost in IE from the second syllable by sandhi. In such cases the aspiration is retained in the first syllable in Skt (as also in Gk), although the root, as described by Skt grammarians contains no aspiration in the first syllable e.g., √*duh* (< IE *dhugh*) has aorist *adhuk* (< IE *e-dhuqs*), √*bandh* (< IE *bhendh*) has aorist *abhāntsīt* (< IE *e-bhent-sist*),

√budh (< IE *bhudh*) has future *bhotsyati* (< IE *bheutsyeti*). Such cases also confirm the fact that the initial syllable was originally aspirated. On the contrary roots described by Skt grammarians with aspirates often lose their aspiration in imperative second person singular, when they take the *-dhi/hi* termination e.g. *jahi* < *√han*, Vd *bodhi* < *√bhū* etc. Many root-nouns show aspiration in the first syllable in nom sg and loc pl only; e.g. *dhuk*, *dhukṣu* but *duhām* (*√duh*). Similarly *dhak* (*√dah*), *dhruk* (*√druh*) etc. Naturally the aspiration of the second syllable was lost in such cases before the terminations *-s* (nom. sg), *-su* (loc pl) and consequently the initial aspiration was retained.

Gk shows all similar characteristics in deaspiration, though the developments were independent of each other.

This law is in a sense complementary to Grimm's law. Originally it was considered that Skt retains the IE aspirates and non-aspirates intact in all cases. But some cases where Grimm's law demanded a voiced aspirate in Skt, Skt actually presented a voiced non-aspirate e.g. *b* in Goth *bindan* NE *bind* demanded *bh* in Skt which actually shows *b* as in *bandh*. Grassmann's law proved that Skt *b* is not original but comes from an earlier *bh*.

286. **Law of Palatalization** (in IIr) : (or **Colli z's Law**)

IE velars and labio-velars which had become velars in IIr, further became palatalized in IIr, if originally followed by IE *ĕ*, *ĭ* and (perhaps also) *y*. e.g.

IE *q^we* > Skt, Av, OP *ca* cp Lat *que* Gk *te*.

IE *peŋq^we* > Skt *pañca* Av *paṉca* cp Lat *quinque* Gk *pente*.

IE *auges* > Skt *ojas* Av *aojō* cp Lat *augeo* etc.

IE *g^whenti* > Skt *hanti* Av *jainti* cp Ht *gwentsi*.

For more examples see

87a ($q > c$), **96a** ($q^w > c$), **91a** ($g > j$), **100a** ($g^w > j$) **95a** ($gh > h$), **103a** ($g^wh > h$) etc.

286a. Skt shows exceptions to the law of palatalizations in several cases. e.g. *kiḥ* for **ciḥ* *kim* for **cim* etc and conversely *cukopa* for **kukopa* etc. These are explained in **76a**.

287. Bartholomae's Law

Already in the Indo-Iranian period combination of a voiced aspirate with a *t* and *s* has resulted into a sound-combination, showing a voiced non aspirate followed by a *dh* and *zh* respectively, i.e. *bh*+*t*>*bdh* and *bh*+*s* > *bzh*. Similarly *gh*+*t*>*gdh* and *gh*+*s*>*gzh* etc. e.g.

IIr *dr̥bh*+*ta-*> IIr *dr̥bdha-* cp Skt *dr̥bdha-*, Av *dərəwδa-*

IIr *dabh*+*sa-*> IIr *dabzha-* cp Av *diwžaidyāi*<*didbhza-*

This law has several exceptions in Av (specially in yAv) e.g. *dapta-*<*dabh*-+*ta-*, *daχsa*<*dagh*+*sa-* etc.

This sound change is often attributed to proto-IE i.e. IE *bh*+*t*>IE *bdh*>IIr *bdh* but Gk *pt*. etc.

But it is preferable to accept Bartholomae's law with the following modification. IE voiced aspirate+*t* became in some dialects (viz. IIr) a voiced non-aspirate followed by *dh* and in others (viz., Gk, Lat etc) a voiceless non-aspirate +*t*; e.g. IE *bh*+*t*>*bdh* in some and *pt* in others, i.e. with progressive and regressive assimilations respectively and in case of *bdh* with shift of aspiration to the final plossive. IE voiced aspirate +*s*> voiced aspirate +*z* in some dialects (viz. in OIranian) and voiceless non-aspirate+*s* in others, (viz. Skt, Gk, Lat etc). In this case also there is progressive and regressive assimilation respectively. But there is no evidence of shifting of aspiration to the final coasonant, as the sound-change by progressive assimilation is restricted to OIranian only. Skt shows the regressive assimilation like Gk

etc. and therefore cannot help us to ascertain the shift of aspiration, which it does in case of the other combination of a voiced aspirate +*t* (Vide 74 also).

287a. Fortunatov's Law

This is a phonetic law, which is no longer accepted. Fortunatov assumed that IE *l* was regularly lost before dentals after cerebralizing them, e.g. Skt *jaṭhara*-, *paṇa*-, *pāṣāṇa*-, *hāṭaka*- etc (For cognates vide **134b**). But Brugmann, Wackernagel etc. donot accept this theory, as similarly also IE *r* is lost after cerebralization of dentals e.g. Skt *kaṭu* . *gaṇa* etc (Vide **134a**). And secondly IE *r*/*l* > IIr *r*; and Skt *l* is often a new development in Skt from IIr *r*.

287b. Siever's Law

Siever's law was expanded by Edgerton and now sometimes called as Siever-Edgerton's law. Further expansion has been made by the present author (Vide CGSGH **18**). It is now preferable to term the law as positional variation of IE secondary vowels. This has been discussed in 32 of this book.

ERRATA

(bt = line from bottom)

page	line	for	read
5	4	v	*ĕ*
10	2 bt	in instead	instead
36	16	indeflnite	indefinite
39	5 bt	*ūu*	*ūn*
51	9	IE *aĝro*	IE *aĝros*
53	11 bt	Goht	Goth
54	1 bt	*gita*	*gīta*
55	18	*ə*	*e*
62	8 bt	*s ratu*	*saratu*
63	6	dendency	tendency
64	5 bt	*nn*	*un*

page	line	for	read
64	8 bt	*hapta.*	*haṃta,*
74	16	redical	radical
77	3 bt	respectivelly	respectively
78	4	EXAMPES	EXAMPLES
89	8	and. Hittite	and Hittite.
89	9 bt	*iṣṭtha*	*iṣṭha*
101	2 bt	*bhāẓhuṣ̌*	*bhāžhuṣ̌*
104	2 bt	I r	IIɹ
105	7	*śuśugdhl*	*śuśugdhi*
106	6	OCSl	OCS
108	3	*q^w*	*g^w*
108	7	*j madagniḥ*	*jamadagniḥ*
114	1	*aîthos*	*aîthos*
116	18	*f a-bd-a*	*fra-bd-a*
116	22	IE *labbhos*	IE *labdhos*
116	4 bt	I r	IIr
116	2 bt	*ph ātēr*	*phrātēr*
121	19	Litn	Lith
124	11	*n vaḥ*	*navaḥ*
128	3 bt	IIr *bhaṅg*	IIr *bhaŋg*
132	2 bt	*oviḥ*	*aviḥ*
133	4	IIr *tri*	IIr *triṣ̌*
133	2 bt	*ṓhs*	*ṓps*
135	7	Av *kas-cit*	*kas-cit*
136	5	inffix	suffix
137	12 bt	*rā bhiḥ*	*rāḍbhiḥ*
141	7	when	when ẓ̌
156	4 bt	on	an
158	4	*asp*	*aspā̊*
158	3 bt	Loc	Dat
162	11 bt	*vəhrkāiṣ̌*	*vəhrkāiš*
163	5	*páleis*	*póleis*
164	7	*in rāya*	*indrāya*
169	9	lhe	the

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